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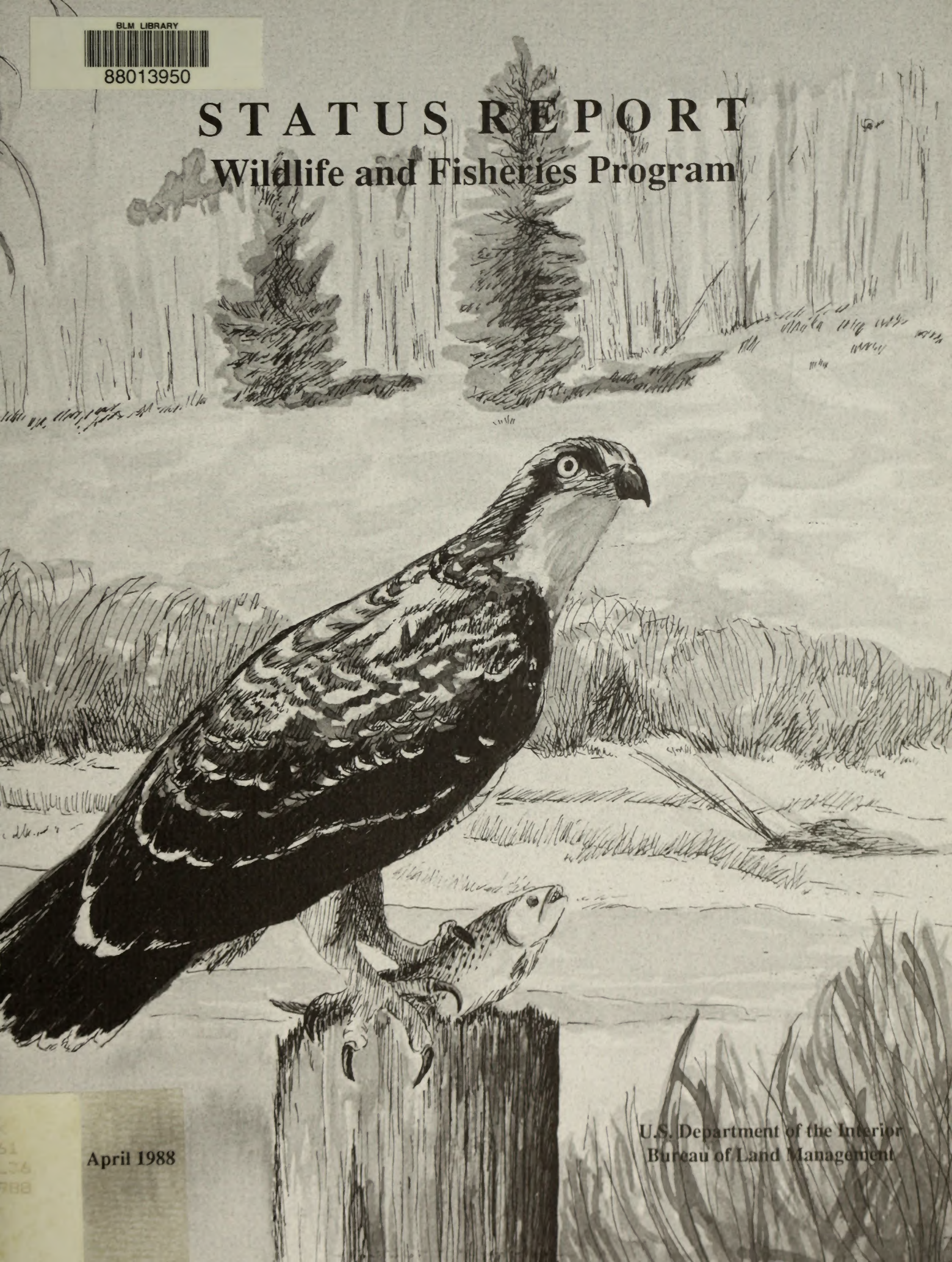
STATUS REPORT

Wildlife and Fisheries Program



April 1988

U.S. Department of the Interior
Bureau of Land Management

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STATUS REPORT

Wildlife and Fisheries Program

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INTRODUCTION

Purpose and Intent

- This report provides an overview of the status, activities, and examples of accomplishments of the Bureau's wildlife and fisheries program. It provides a baseline from which to measure progress, needs, and accomplishments associated with implementation of *Fish and Wildlife 2000*, the Bureau's plan for the future concerning fish and wildlife resource management, and various laws relating to fish and wildlife resource management on public lands.

- This report is not designed to be used as a means of rating or evaluating State programs or performance. It is recognized that the nature and complexity of issues, problems, priorities and fish and wildlife resources varies by State. For this reason, it is difficult to present graphically these differences by State. Therefore, readers are cautioned against making such comparisons solely on the basis of the data and information herein.

Overview

- Congress has clearly defined the role and responsibility of the BLM. The Federal Land Policy and Management Act of 1976 (FLPMA), the Sikes Act, the Public Rangeland Improvement Act, and the Endangered Species Act, and others, have focused on the importance of fisheries and wildlife resources and the need to manage these resources in combination with other uses for the benefit of people.

- One of the positive impacts of FLPMA was to provide the Bureau with clear direction for inventory and management of fish and wildlife resources. This has enabled the Bureau to get a more accurate understanding of the variety and abundance of both game and nongame species and the extent and quality of their habitat on public lands. Land use planning under the direction of FLPMA has provided for better management of wildlife and fish resources which, in turn, is providing benefits to the public and the resources.

- Traditionally, the two primary purposes of the wildlife and fisheries program have been to provide pertinent data and expertise for land use decisionmaking and management processes, and to develop and protect wildlife and fish habitat pursuant to the management prescriptions specified in Resource Management Plans (RMPs), and Habitat Management Plans (HMPs) or other activity plans such as Allotment Management Plans.

PROGRAM OBJECTIVES

The major objectives are to:

- Ensure viable populations and a natural abundance and diversity of wildlife resources on public lands by restoring, maintaining, and enhancing habitats in a manner that recognizes other uses of the public lands, through coordination and cooperation with other public land users, and through on-the-ground habitat improvement projects.

- Conserve plant and animal species found on public lands which are listed as threatened or endangered (T/E) under the Endangered Species Act, and ensure that no action authorized, funded, or carried out by the Bureau jeopardizes the continued existence of T/E species or results in the destruction or adverse modification of their critical habitats.

- Manage populations of plants and animals on public lands to minimize the need to list them as T/E under the Endangered Species Act.

- Maintain, restore, or enhance resident and anadromous fish habitats on public lands so as to contribute to recreational and commercial fishing opportunities.

- Manage riparian areas to maintain, restore or improve riparian values to achieve a healthy and productive ecological condition for maximum long-term benefits.

- Ensure full consideration of fish and wildlife resources by other multiple-use land management programs.

- Determine progress toward meeting habitat management objectives established in Bureau land use or activity plans by monitoring trends in fish and wildlife resource values.

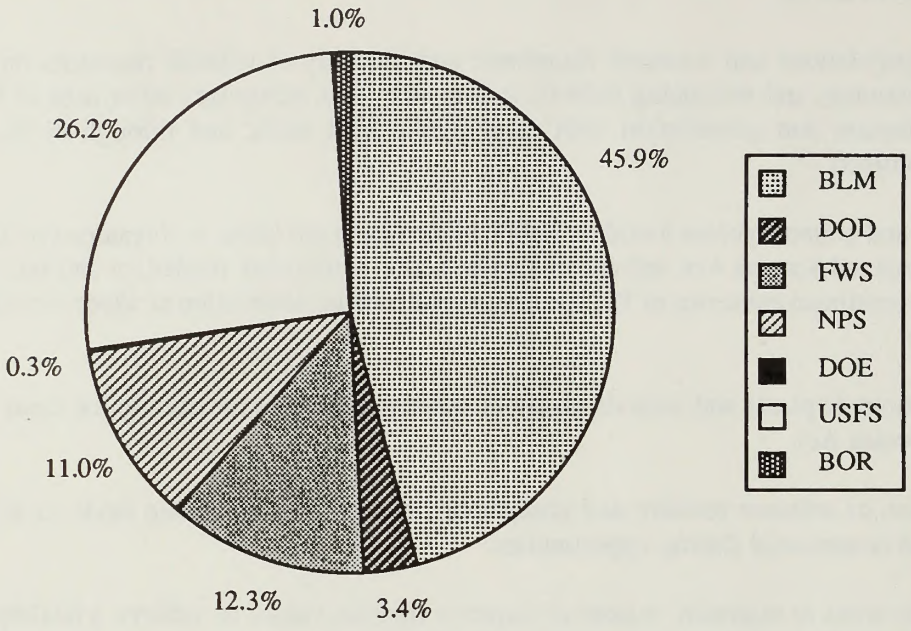
- Identify important public land fish and wildlife habitat values in order to facilitate land use planning and multiple-use resource management activities.

- Provide opportunities for consumptive and nonconsumptive public uses of fish and wildlife commensurate with the well-being of the plants and animals involved and the habitats on which they depend.

- Ensure cooperation in the management of fish and wildlife resources among State fish and wildlife agencies, other federal agencies, adjacent landowners, and other interested groups and individuals.

Fish and Wildlife Habitat Resources

Federal Management of Wildlife Habitat Some Selected Areas

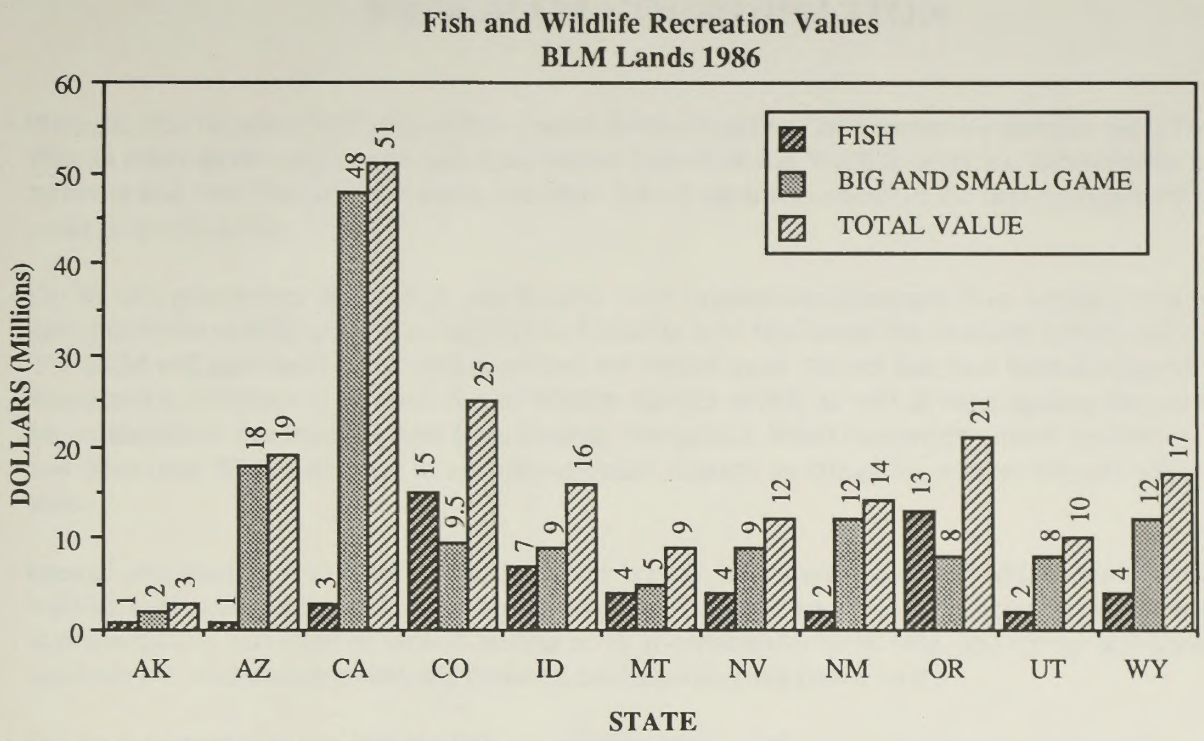


Percent of Acres

- The Bureau administers almost one-third of a billion acres of public lands which sustain an abundance and diversity of fish and wildlife resources prized for their recreational, ecological, scientific, social, historical, economic, cultural, educational, and esthetic values. The public lands administered are permanent or seasonal homes for over 3,000 species of mammals, birds, reptiles, fish, and amphibians, including some 140 federally listed Threatened or Endangered species and approximately 870 Candidate species.

Fish and Wildlife Habitat Resources on the Public Lands (from *Public Land Statistics*)

Habitat	Acres	
Big game	205,922,000	
Small game	233,330,000	
Waterfowl	28,386,000	
Riparian	7,466,000	(6,563,000 in AK)
Wetland	16,283,000	(15,848,000 in AK)
Lakes	3,998,000	
Reservoirs	173,000	
Streams (miles)	84,871	
T&E species	5,500,000	



Fishing does not include commercial value
1983 estimates are $40 million

- Based on BLM statistics and the 1980 National Survey of Hunting and Fishing, it is estimated that hunters used the public lands during the 1985-86 season for nearly 5 million days of hunting worth $145 million in primary benefits. Over 3 million days of fishing took place on the public lands worth $55 million in primary benefits to fishermen. Observing wildlife was undoubtedly important to campers, hikers, and motorized travellers who spent 230 million hours on BLM lands and waters during the 1985-86 season. Conservative estimates of wildlife viewing is $200 million in primary benefits.

- Fish and wildlife on the public lands produce both primary and secondary benefits. The primary benefits accrue to the hunters, fishermen, and nonconsumptive users who combine effort, skill, their own equipment, and occasionally the services of a guide and outfitter to produce valuable recreation experiences. The secondary benefits from fish and wildlife accrue to the communities whose businesses sell equipment, transportation, food and lodging to hunters, fishermen, and wildlife viewers who visit the communities in pursuit of their recreation.

PROGRAM COORDINATION

- Managing the habitat of fish and wildlife species for the benefit of all citizens is a complex task. The Bureau relies on the cooperation and assistance of State Fish and Wildlife agencies, conservation groups, ranchers and other private individuals, and other federal agencies to achieve the best management practicable on public lands.

- The BLM's plan for the future, *Fish and Wildlife 2000,* emphasizes continued close working relationships with the States to maintain or increase fish and wildlife at or near levels the available habitat can support. The BLM will also continue to work to protect and restore those species that have been designated as threatened or endangered by the Fish and Wildlife Service (FWS) as well as those species that are declining in abundance but may not have been formally designated. When competition exists between wildlife and other uses, BLM will strive to maintain optimum habitats by mitigating adverse impacts where possible.

- Internal coordination with other Bureau programs is vital, since they collectively affect almost all fish and wildlife habitat on public land. For example, livestock is grazed on 174 million acres of public land, timber is produced and harvested on some 8 million acres of commercial forest land, and energy and nonenergy minerals are produced or potentially could be produced on most public lands.

- Day-to-day interaction between the fish and wildlife activity and other activities occurs through a variety of ways, including the use of stipulations which allow other uses to occur in wildlife and fish habitat while eliminating or minimizing adverse effects of those actions on habitat.

- BLM biologists help ensure that such uses occur in a manner that allows maximum total benefits of all users to be realized. This is done in a variety of ways. One key way is by providing managers with information on how fish and wildlife resources are affected by other uses of public lands and how those other uses can be tailored to benefit habitat. Examples of such coordination between activities include the alteration of grazing systems so that habitats improve in condition, and conducting timber harvests in a manner that protects or enhances wildlife and fisheries habitat.

Program Tools

Inventories are conducted to gather baseline information on fish and wildlife resources to provide the foundation for land use and activity planning, monitoring, and habitat development work. While much has been done to obtain adequate data, some gaps remain, especially for critical riparian and wetland areas and rare plants and animals.

Resource Management Plans (RMPs) are used to develop general long-term management objectives for large geographic areas. Such plans provide an opportunity to compare wildlife values and needs with other potential and existing land uses, the framework for making specific land use decisions, and carrying out management decisions. The RMP provides an excellent opportunity to organize all the wildlife information and analyze the significance of BLM lands in managing fish and wildlife resources. Earlier versions of these land use plans were called Management Framework Plans (MFPs).

Fish and wildlife activity plans which include Habitat Management Plans (HMPs), Coordinated Resource Management Plans (CRMPs) and Area of Critical Environmental Concern (ACEC) plans, are the primary vehicles used to implement BLM fish and wildlife programs. Over 400 HMPs have been developed to implement a variety of multiple-use decisions affecting fish and wildlife habitat management. These plans provide a blueprint for on-the-ground habitat management and improvements and are the basis for monitoring multiple-use decisions and objectives affecting fish and wildlife habitat management as identified in overall land use plans. Through the Sikes Act, there has been a strong commitment by State wildlife agencies to carry out this cooperative effort as partners with the Bureau.

Monitoring the effects of land use decisions and actions on fish and wildlife resources provides managers with information needed to provide a basis for identifying opportunities to maintain, improve, and enhance these resources for both consumptive and nonconsumptive uses, and identify fish and wildlife resources needing special attention, such as T/E, State-listed species, sensitive species, and those of high economic value.

Monitoring efforts outlined in land use and in activity plans will continue to be essential to monitor progress in meeting objectives.

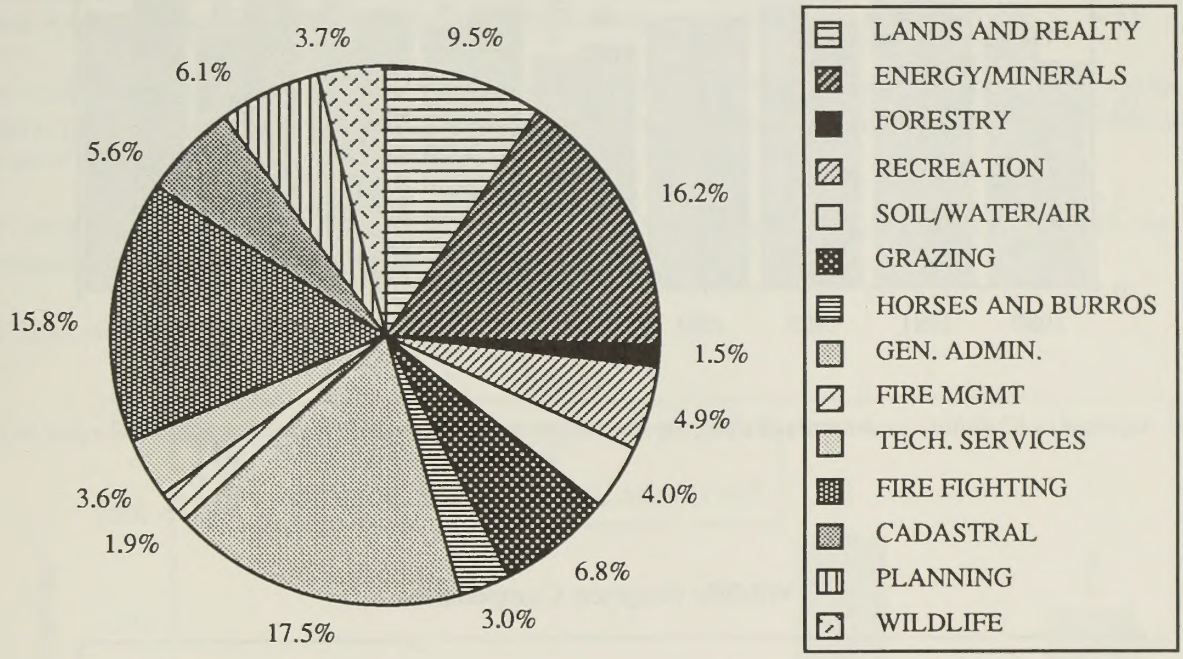
Research amounts to about 4 percent of the total wildlife budget, with emphasis placed on studies that can be directly applied to on-the-ground management situations and issues. For example, BLM is currently supporting research on the role of fire and livestock in raptor habitat; habitat requirements of bighorn sheep, the spotted owl, and desert tortoise; and alternatives to total exclusion of livestock from riparian areas.

Field Projects to improve habitat are increasingly being implemented as a result of additional funds and assistance being made available under challenge grants (matching funds), volunteer efforts and increased cooperation with States, private organizations and users of the public land. These projects include seedings, stream improvements, prescribed fire, wetlands improvements, installation of water facilities in arid areas, and a host of other activities.

BUDGET AND STAFFING

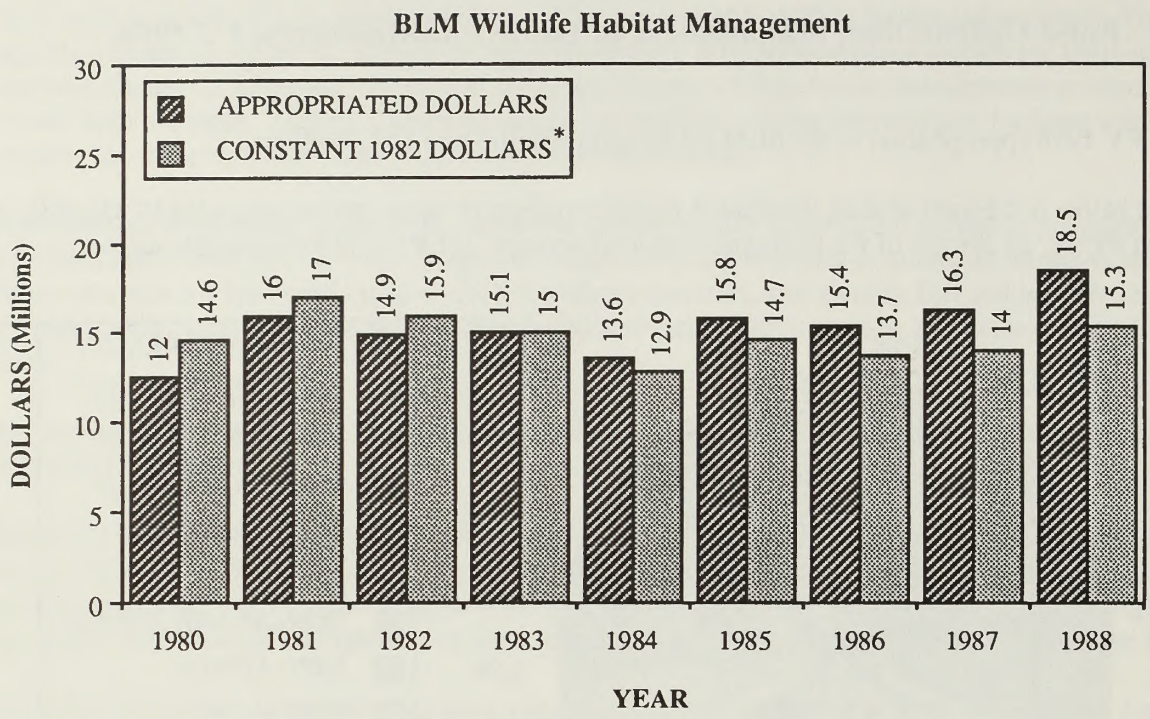
Fund Distribution, Management of Lands and Resources, FY 1988

- The total FY 1988 appropriation to the BLM for fish and wildlife was $18.5 million.
- Displayed below is the total amount distributed for management of lands and resources ($425,325,000). As this graph shows, 26 percent of the lands and resources account (MLR) went to renewable resources.

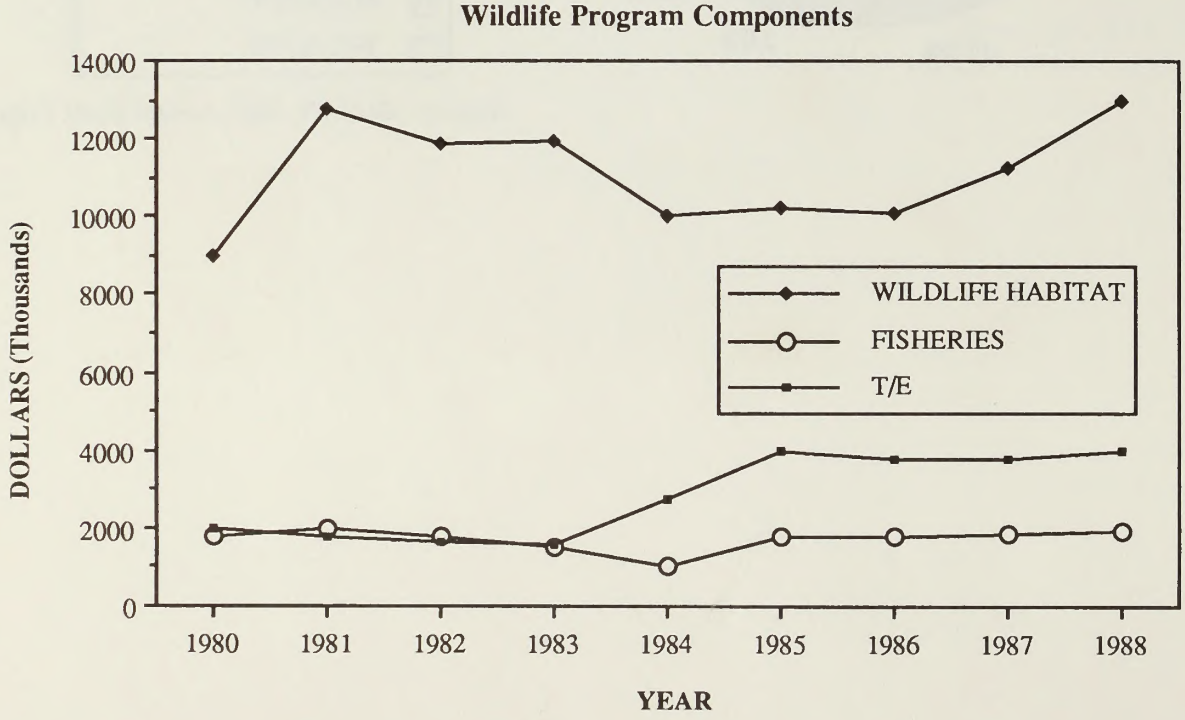


Source: BLM FY 1988 Annual Work Plan

Budget History



Note: Adjusted to 82 dollars as determined using the President's annual economic indicators with 1982 equal to 100%



Challenge Grant Funding

- Contributions include funds, materials, and/or labor.

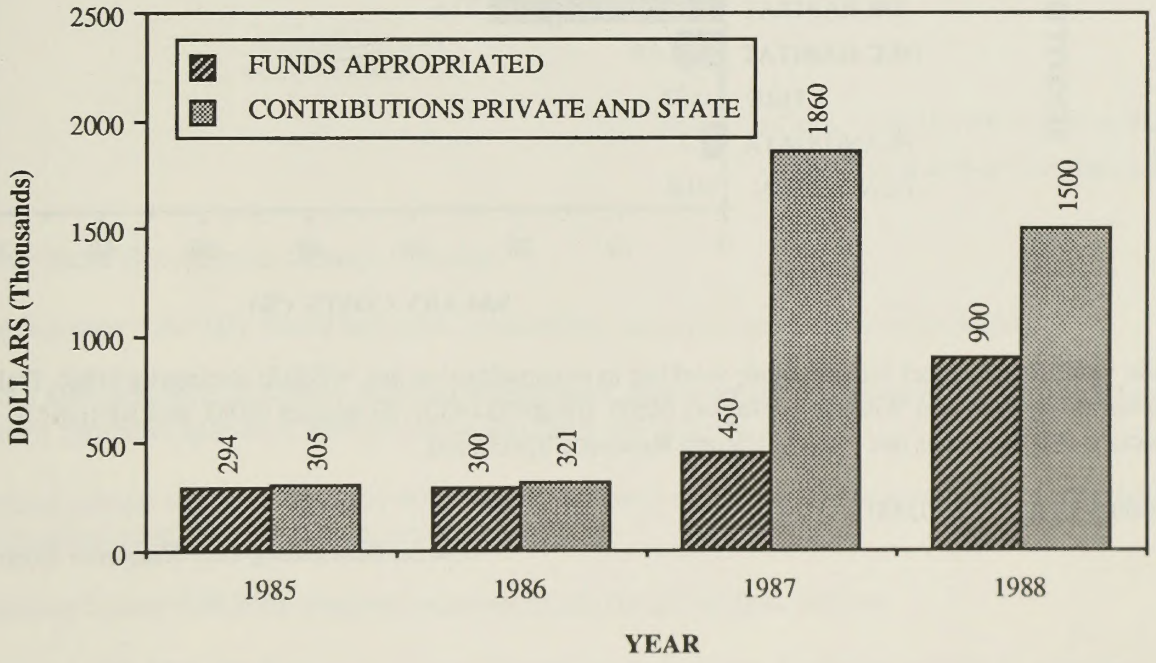
- In 1985 and 1986, the Congress appropriated $300,000 to the BLM to be used for challenge grants to improve habitat for desert bighorn sheep. Funding was appropriated contingent on matching contributions from conservation groups, public agencies, individuals, and other sources. In 1987, the challenge grant appropriations were increased to $450,000 and the authority given to spend these funds for habitat improvements for other than just sheep.

- In FY 1988, $900,000 was appropriated by Congress for challenge grants. This will be used to match an estimated $1.5 million from State or private funds. In addition, interest was expressed by the private and State sector to match an additional $3 million if challenge grant funds had been available.

- The challenge grants have provided a vital boost to the Bureau efforts to implement on-the-ground projects. This support and involvement by outside contributors have resulted in the improvement of thousands of acres of habitat for a variety of wildlife species.

- FY 1988 challenge grant opportunities identified by the States totaled $3.7 million in BLM funds and $4.5 million in contributed funds, materials and labor.

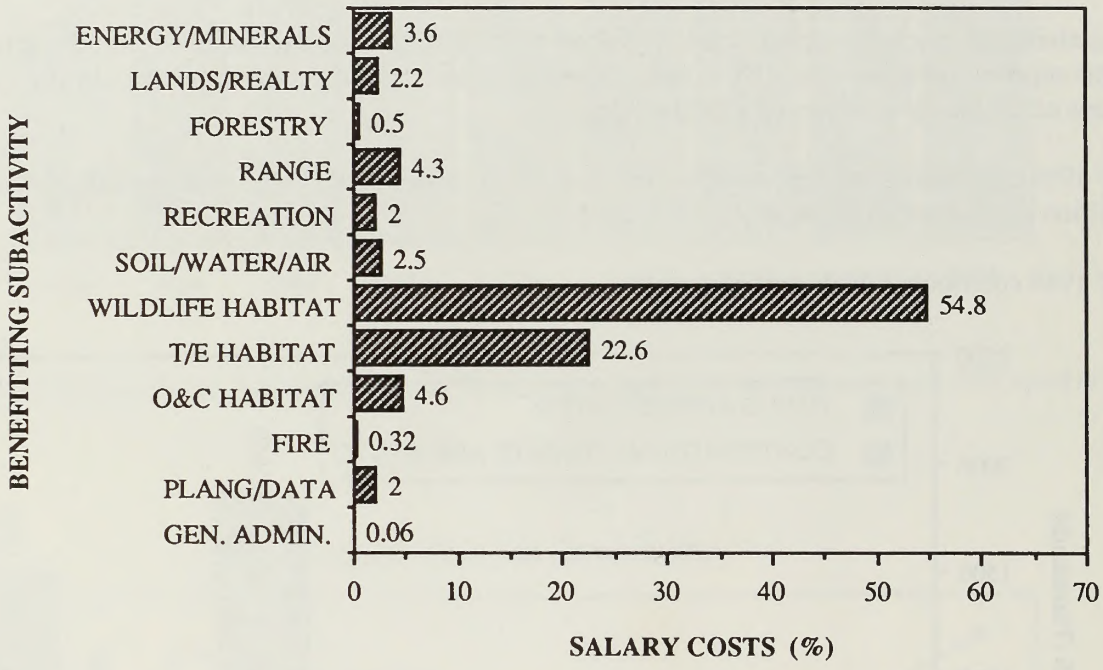
- FY 1988 contributed funds are estimates.



Charges by Wildlife and Fisheries Program Personnel to Benefitting Subactivities from FMS 1987

- Benefitting subactivity is generally defined as the subactivity or program that initiates an action or causes an action to take place. For example, when processing an application for a permit to drill an oil and gas well, the T/E species clearance, cultural clearance, environmental assessment and associated clerical work are all parts of the total job that would be charged to the benefitting subactivity, oil and gas.

- The graph below shows that 82 percent of the total salary costs for wildlife and fisheries program personnel is paid out of the wildlife and fisheries budget. Thus, 18 percent of the total salary costs are paid for by other Bureau programs (e.g., energy and minerals, rangeland management).



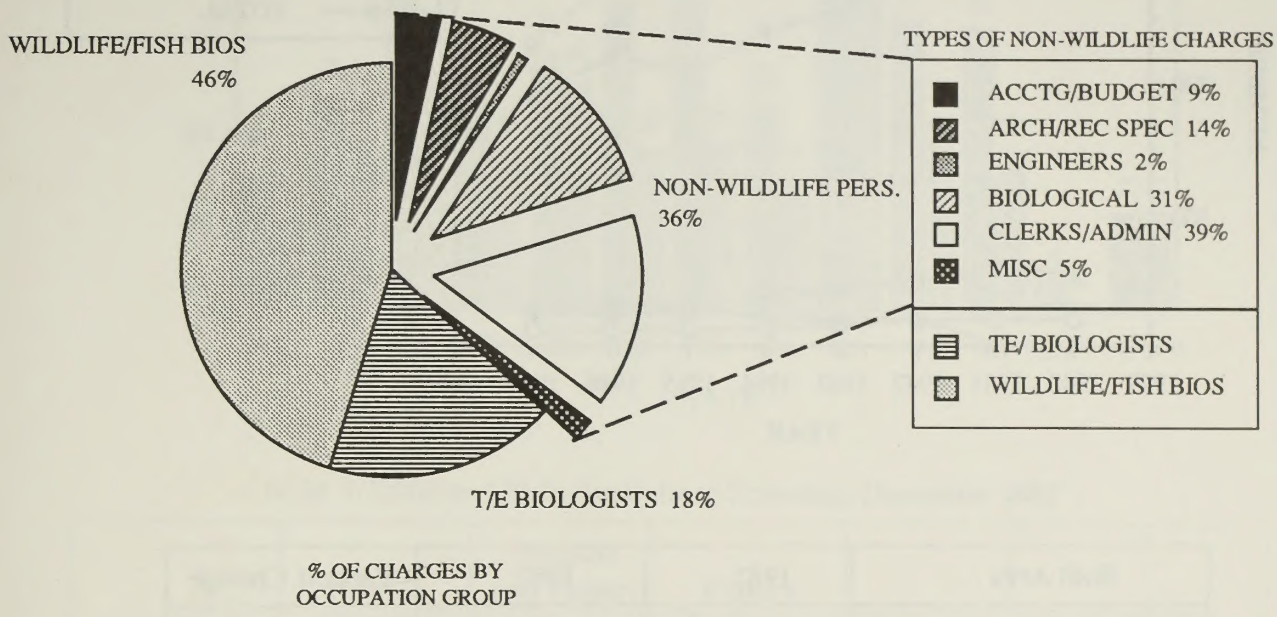
Fish and wildlife personnel include those working in occupational series Wildlife Biologists (486), Fisheries Biologists (482), Fish and Wildlife Biologists (480), Botanists (430), Biologists (408), and Biological Technicians (404). It does not include Natural Resource Specialists.

Total salary costs: $5,890,000

Source: BLM End-of-Year Manpower Report, 1987

Comparison of Non-Wildlife/Wildlife Personnel Salary Charges to the Wildlife/Fisheries Habitat Program

This graph shows that 36 percent of the total salary cost for wildlife and fisheries went to non-wildlife and fisheries personnel who were performing work in support of the program.



Note: Total salary costs for FY 1987 were $8,018,796

Source: BLM End-of-Year Report, FY 1987

Bureau-related Occupations, General Schedule

Social Sciences (GS-100): Social scientists, economists, recreation specialists, archeologists.

Clerical/Administration (GS-300): Program management, management and program analyst, clerk-typist-secretary, computer specialist, administrative assistants and officers.

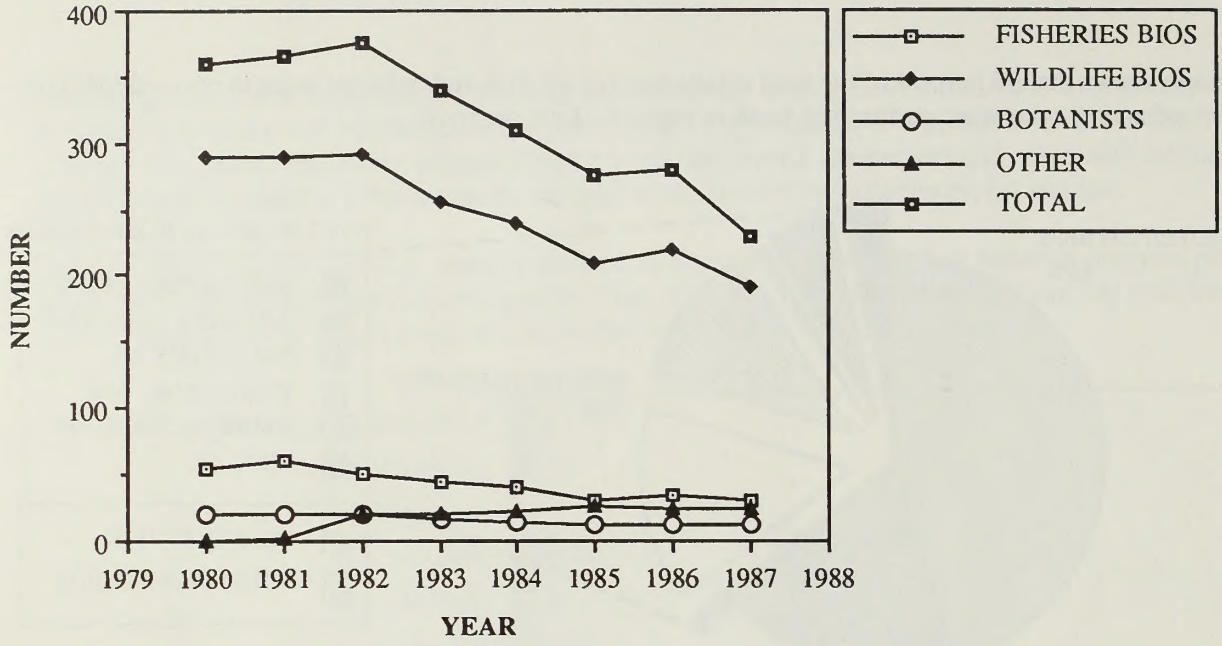
Biological science (non-wildlife) (GS-400): Natural resource specialists, range conservationists/technicians, soil scientists/technicians, forestry scientists/technicians.

Accounting/budget (GS-500): Financial administration, budget analyst, clerical.

Engineering (GS-800): Civil engineers, general engineers/technicians, landscape architects, surveying technicians, electronics technicians, mining/ petroleum engineers.

Misc. (GS-000): Outdoor recreation planners, environmental protection specialists, etc.

Staffing History, BLM 1982 to 1987

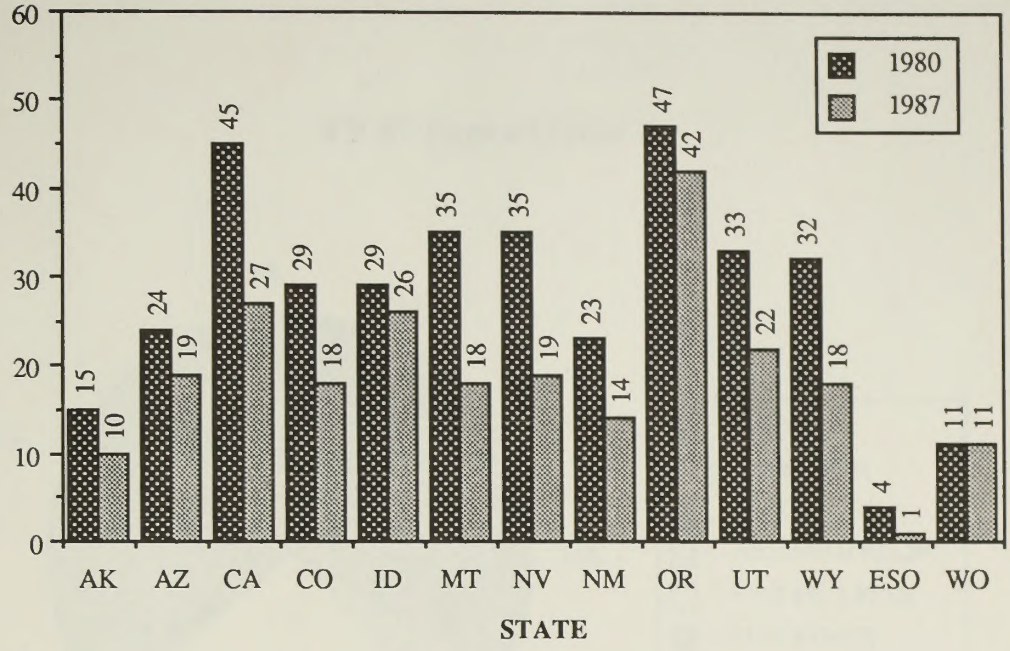


Skill Area	1982	1987	Percent Change
Total BLM Work Force	9,183	9,487*	+3
Wildlife Biologists	290	192	-34
Fisheries Biologists	56	25	-55
Botanists	17	9	-47
Other	16	16	0

- Nearly 90 percent of the number of professional fish and wildlife biologists and botanists employed by the Bureau are located at the District and Area office levels.

**Part of this increase is due to the BLM merging with the Minerals Management Service.*

Wildlife Related Personnel by State, 1980 and 1987



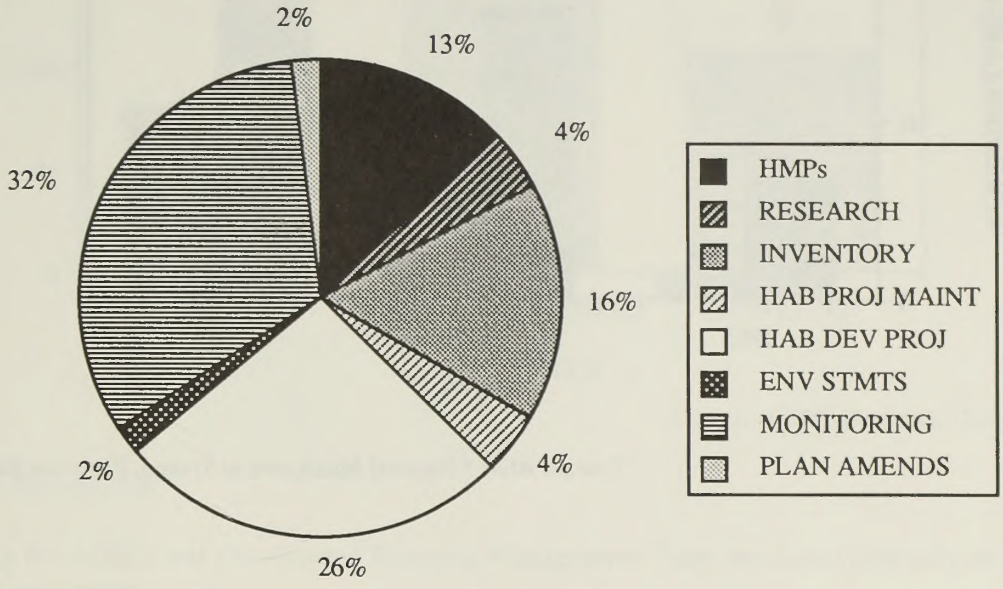
BLM Wildlife and Fisheries Related Scientists, December 1987

State	Wildlife Biologists	Wildlife and Fishery Biologists	Fishery Biologists	Botanists	Other*	Total
Alaska	6	-	3	-	1	10
Arizona	16	-	-	1	2	19
California	19	-	1	3	4	27
Colorado	15	-	1	-	2	18
Idaho	19	1	3	1	2	26
Montana	17	-	1	-	-	18
Nevada	18	-	1	-	-	19
New Mexico	13	-	-	1	-	14
Oregon	26	-	-11	4	1	42
Utah	18	-	2	-	2	22
Wyoming	17	-	1	-	-	18
Eastern States	1	-	-	-	-	1
Wash. Office	7	1	1	-	2	11
Totals	192	2	25	10	16	244

**Includes natural resource specialists, statisticians, analytical wildlife research biologists, and supervisory raptor research biologists.*

WILDLIFE HABITAT COMPONENT

FY 87 Expenditures

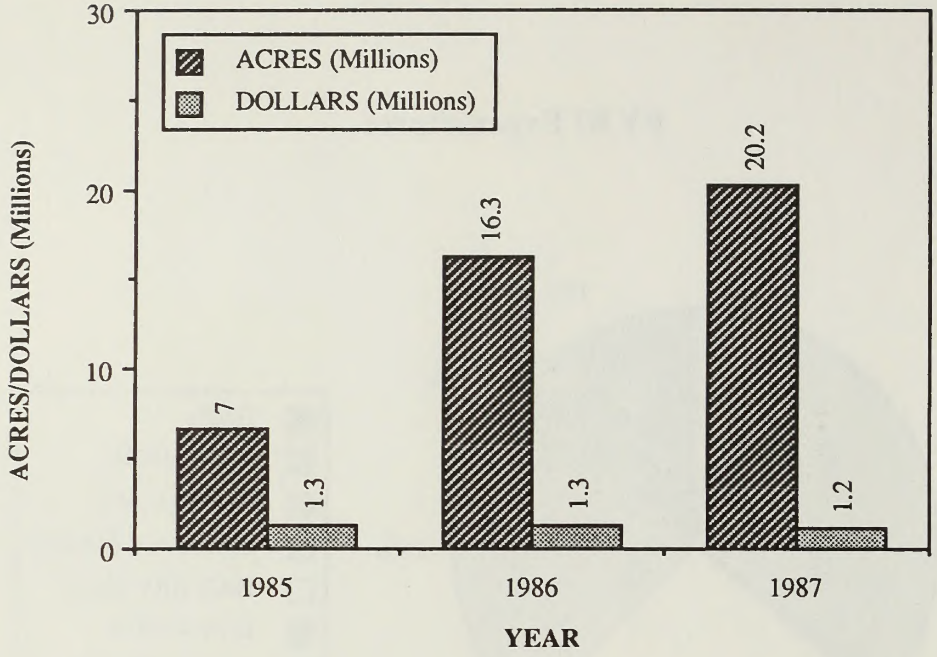


Note: Expenditures based on FY 1987 budget of $16.1 million, does not include costs for Fisheries Habitat Management.

Wildlife Habitat Inventories

- The acreage of habitat inventoried each year is related to the number of RMPs, EISs, EAs, and activity plans programmed each year. The acres of habitat inventoried is one indication of workload and costs. The intensity of inventory is dependent on its purpose and use. Generally, the trend is toward inventories that are site-specific or species-specific in nature rather than those that are extensive in nature.

Acres of Habitat Inventoried and Cost 1985 to 1987

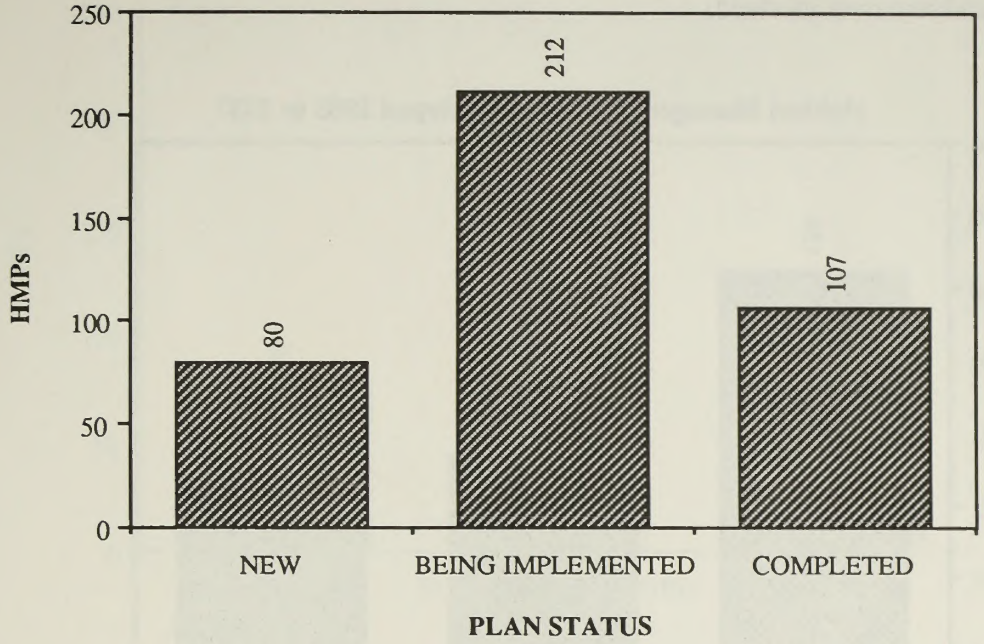


Source: BLM Financial Management System, Program Element 06, 4351.

FY 1987 examples of major wildlife inventory accomplishments:

- San Pedro Conservation Area (Arizona)
- Grand Junction RMP/EIS (Colorado)
- Columbian sharp-tailed grouse habitat (Idaho)
- Wetlands inventory, Montana High Line for RMP (Montana)
- Dixie and San Rafael RMP (Utah)
- Elk winter range (Utah)
- Rocky Mountain bighorn habitat (Utah)
- Salt Marsh (Utah)
- Raptors (statewide) and ACECs (Rock Springs) (Wyoming)

Status of Habitat Management Plans Bureauwide, FY 1986



Source: HMP Statistics Data Base, 1986

Includes fisheries and T/E.

Includes plans for ACECs and Coordinated Resource Management Plans developed primarily to address fish and wildlife management needs.

New: HMPs which have just been or are being prepared and can be ready for on-the-ground implementation. New HMPs have not had funds obligated for on-the-ground management actions.

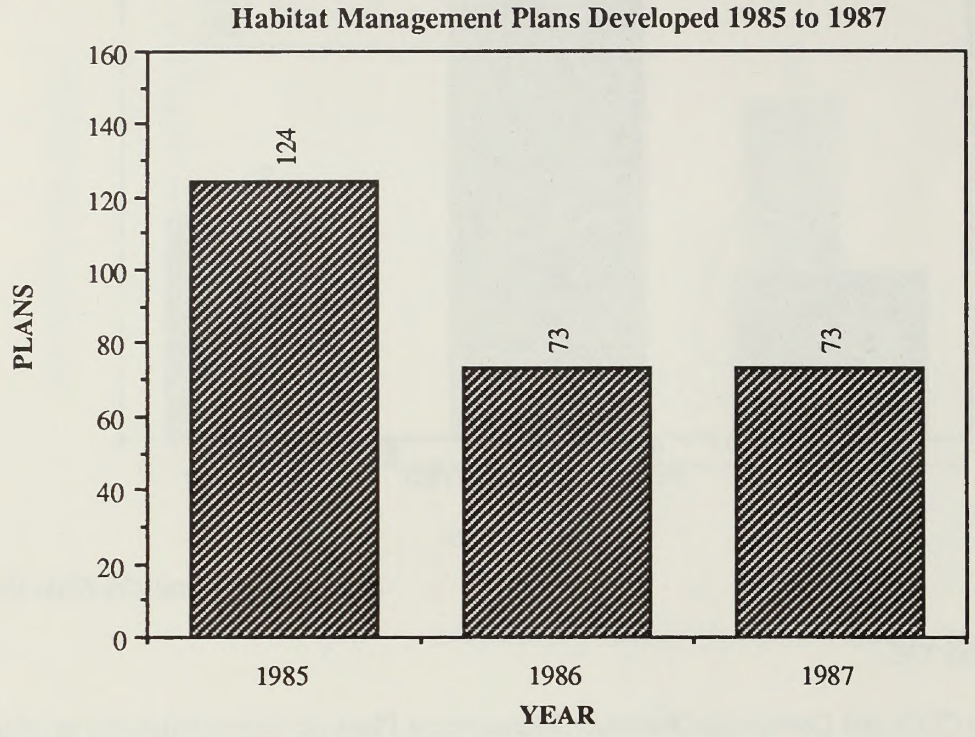
Implemented: HMPs which have been approved (signed) and have had funds and/or personnel obligated to accomplish habitat management actions on the ground.

Completed: HMPs for which at least 90 percent of the total funds required for implementation have been obligated toward originally planned actions. They are essentially in a maintenance and monitoring phase.

Fish and Wildlife Activity Plans

- Habitat Management Plans (HMPs), Areas of Critical Environmental Concern (ACECs), Cooperative Resource Management Plans (CRMPs), and Cooperative Management Agreements (CMAs) are developed as the need is identified in land use plans, RMPs and MFPs to address site-specific issues and opportunities.

• The costs and workload associated with activity plan development is dependent on complexity of fish and wildlife issues and resources involved.

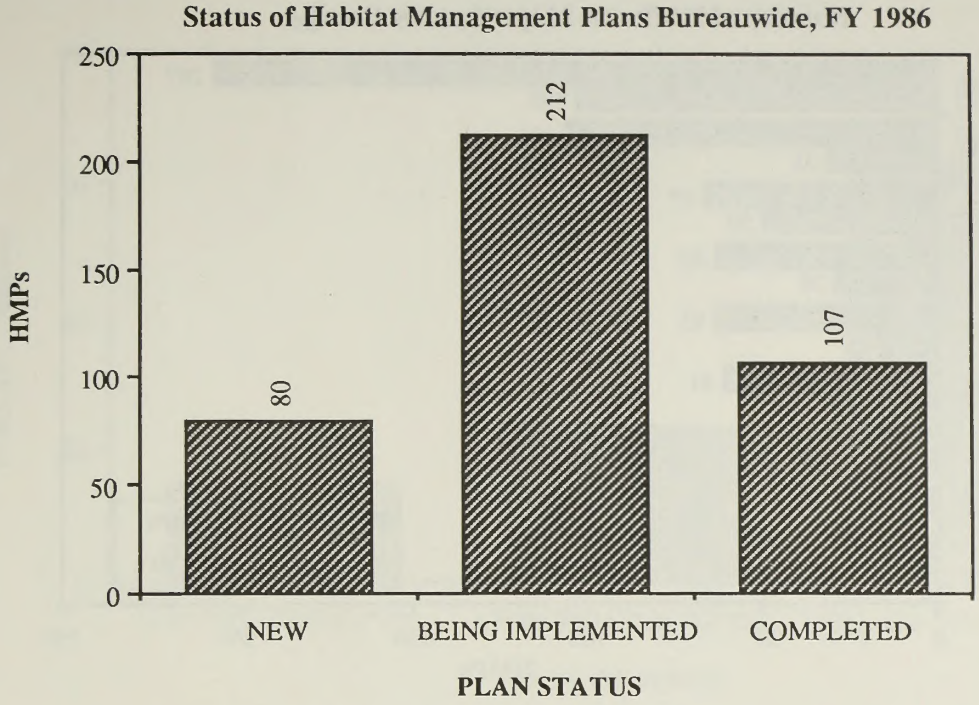


Source: FMS

Activity Plan Statistics

• Information in this section was obtained from the HMP statistics data base. The information includes fisheries and T/E activity plans.

• Included in the data base are HMPs, ACECs, and CRMPs that are reported in subactivities 4351, 4352, and 6334. T/E recovery plans are not included.



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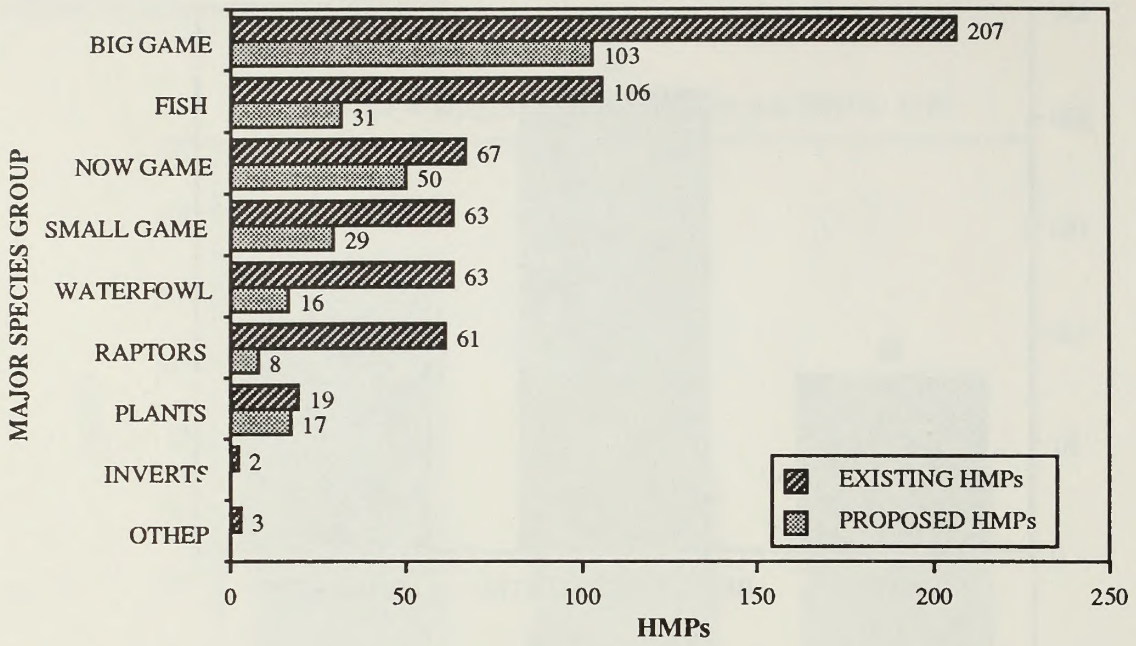
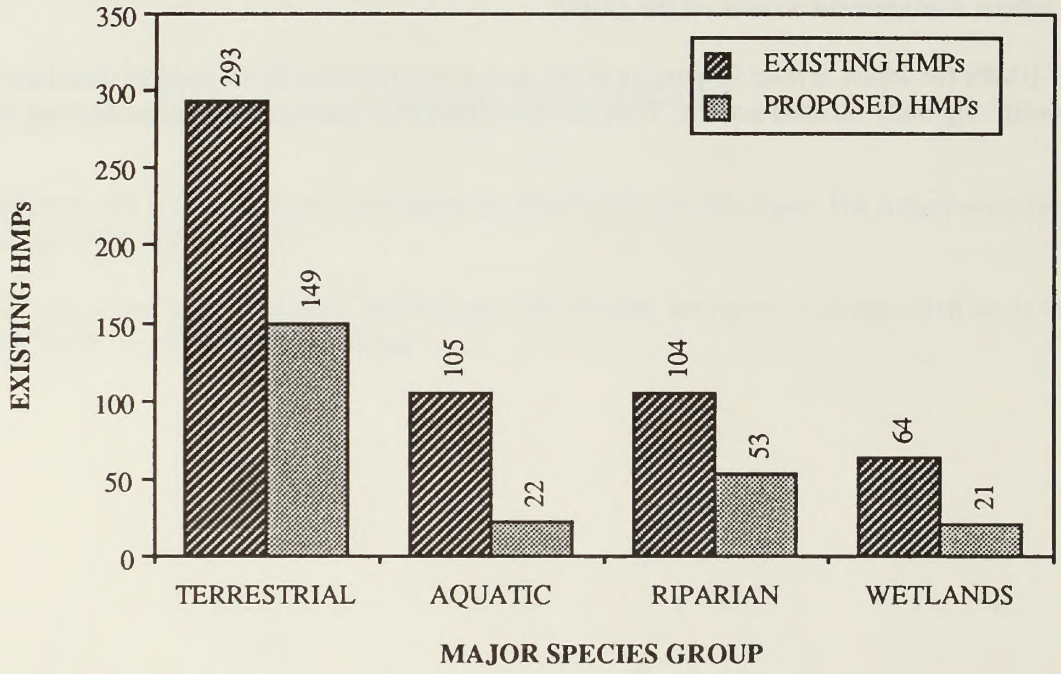
Number of HMPs for Major Species Groups



Note: Many of the HMPs included in the above provide habitat improvement for more than one species group resulting in duplicate numbers

Source: HMP Statistics Data Base

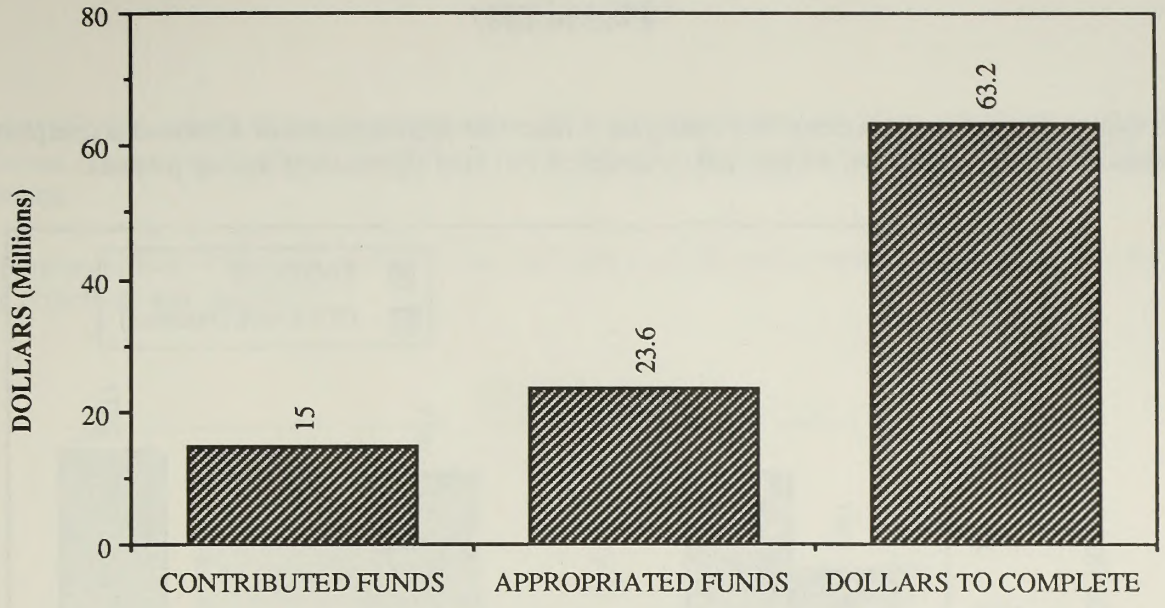
Number of HMPs for Priority Habitats



Note: Many of the HMPs in the above graph include management objectives or more than one priority habitat resulting in duplicate numbers

Source: HMP Statistics Data Base, 1986

Expenditures for Wildlife Related HMPs

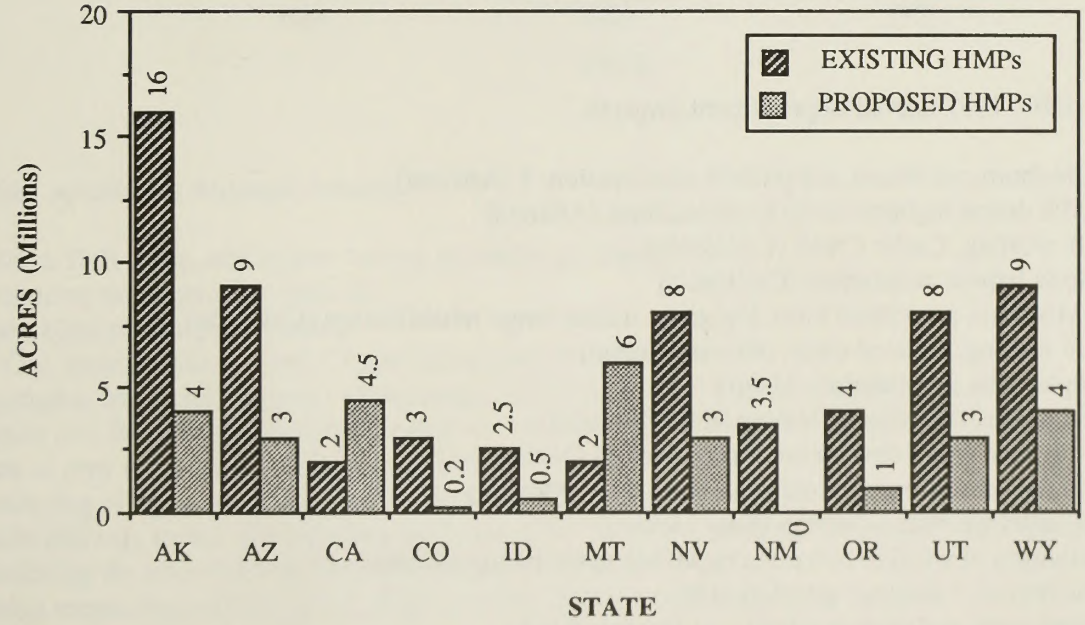


"Contributed Funds" include donations of labor, material, and money from groups interested in improving wildlife habitat on the public lands.

"$$ to Complete" includes the funding required to complete implementation of existiing HMPs.

Source: HMP Statistics Data Base, 1986

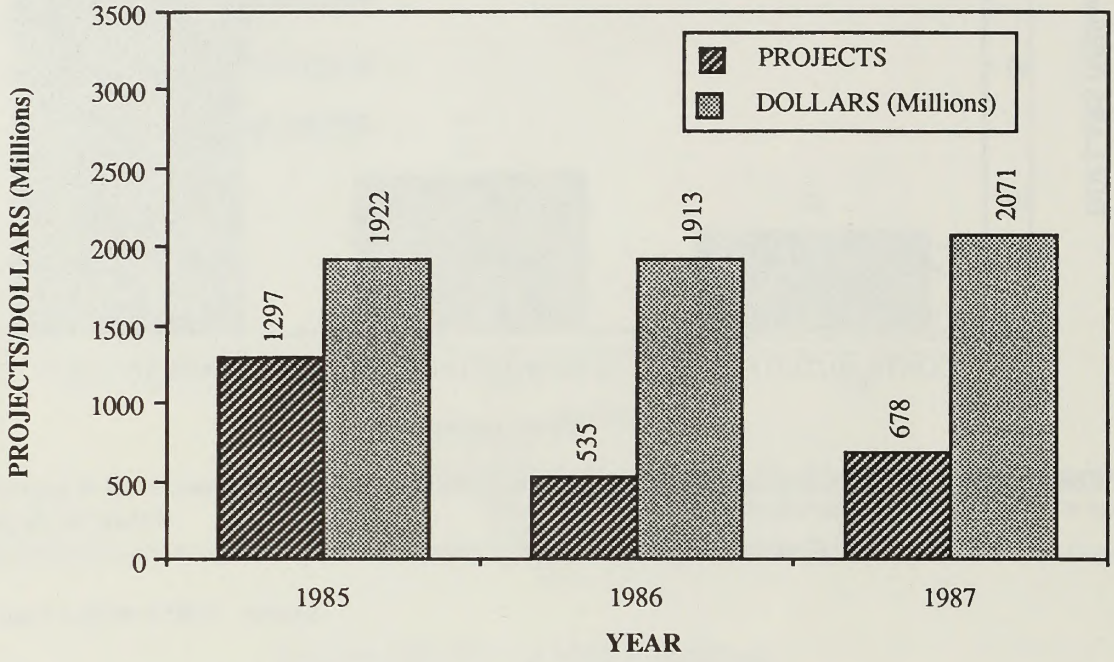
Acres of Wildlife Habitat Under Existing HMPs and Acres Including in Proposed HMPs by State



Source: HMP Statistics Data Base, 1986

Habitat Improvement Projects
1985 to 1987

• The total number of projects completed each year is not a true representation of workload accomplishment, because planning, survey and design, and construction can vary significantly among projects.



Note: The number of projects varies each year due to mainly because of variable costs of individual projects and stage of completion.

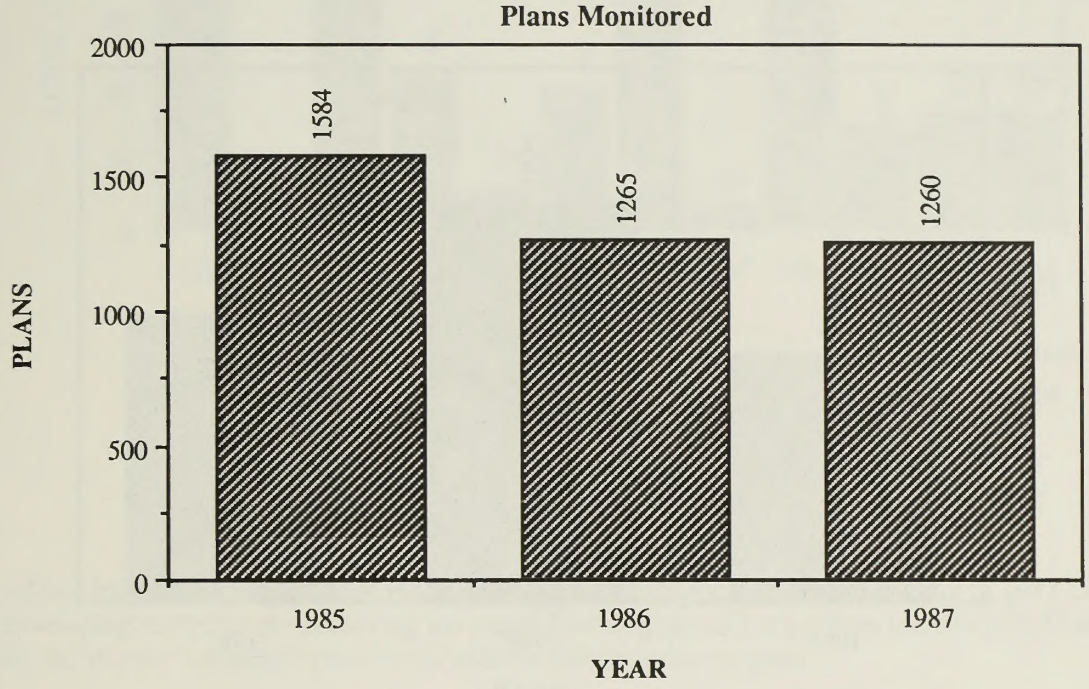
• Examples of FY 1987 habitat improvement projects:

- Desert bighorn catchment and pothole construction, 8 (Arizona)
- Peloncillo desert bighorn sheep reintroduction (Arizona)
- Tule elk seeding, Cache Creek (California)
- Waterfowl habitat acquisition (California)
- Black Mountain prescribed burn, big game winter range rehabilitation (Colorado)
- Wildlife fencing, isolated tracts program (Idaho)
- Raptor platform construction (Idaho)
- Wetland acquisition, Spring Valley HMP (Nevada)
- Desert bighorn water development construction (Nevada)
- Almo-Hueco desert bighorn reintroduction (New Mexico)
- Roswell antelope reintroduction (New Mexico)
- Rehabilitation of wildlife burns in crucial big game habitat (Idaho)
- Construction of 5 antelope guzzlers (Utah)
- Waterfowl pond and nesting island construction (Utah)

Fish and Wildlife Monitoring
1985 to 1987

- Number of plans and objectives monitored each year depends upon land use plans, activity plans and NEPA decisions. Intensity of monitoring for each plan depends upon the number and complexity of objectives and decisions.

- The purpose of monitoring is to assess results of management activities toward achieving resource management objectives and decisions.



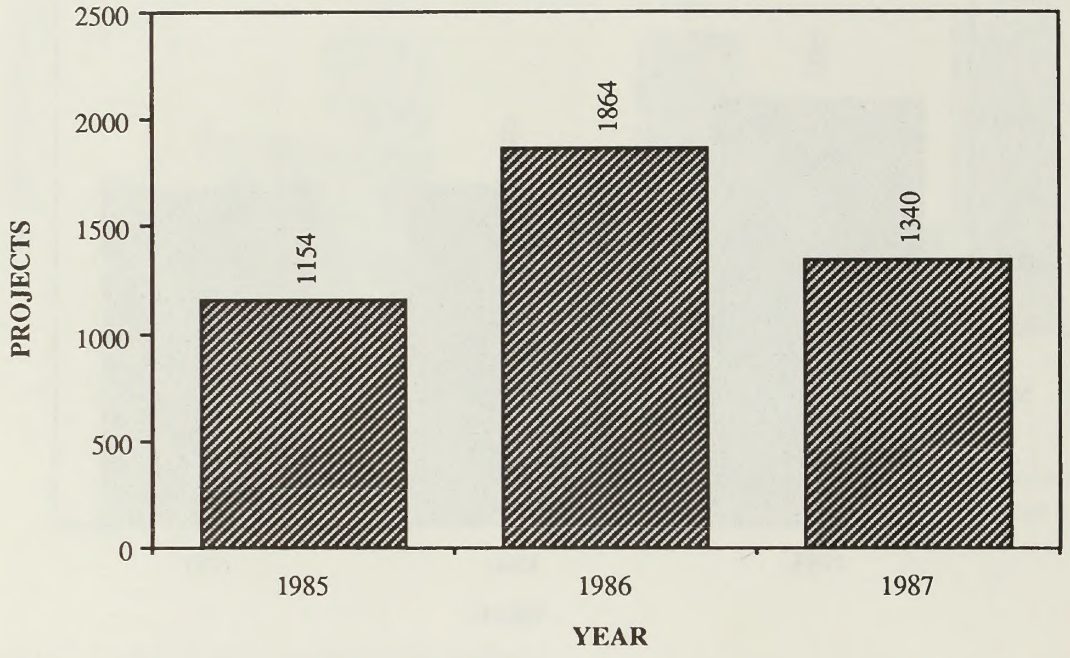
FY 1987 monitoring accomplishments:

- Caribou, Dall sheep, and moose habitat monitoring (Alaska)
- Monitoring of placer mine impacts
- Desert bighorn sheep monitoring
  - Old Woman, Marble, and Clipper Mountains (California)
- Monitoring of crucial big game winter range and livestock and big game forage competition (Colorado)
- Browse and fire rehabilitation monitoring on crucial big game winter range habitat (Idaho)
- Birds of prey monitoring, Snake River (Idaho)
- Monitoring of big game habitat included in land use decisions (Nevada)
- Prairie chicken, raptor and big game monitoring in Category 1 grazing allotment (New Mexico)
- Monitoring the objectives of 24 HMPs (Utah)
- Habitat monitoring of Category 1 allotments and HMPs (Wyoming)

Number of Projects Maintained
1985 to 1987

• Maintenance is performed on field projects to ensure that each continues to function properly and achieves the objective for which the project was originally installed. This includes such actions as maintenance of wildlife water developments, modification of fences to allow big game passage, maintenance of stream improvements to benefit fisheries, and maintenance on waterfowl habitat projects and wildlife nesting facilities.

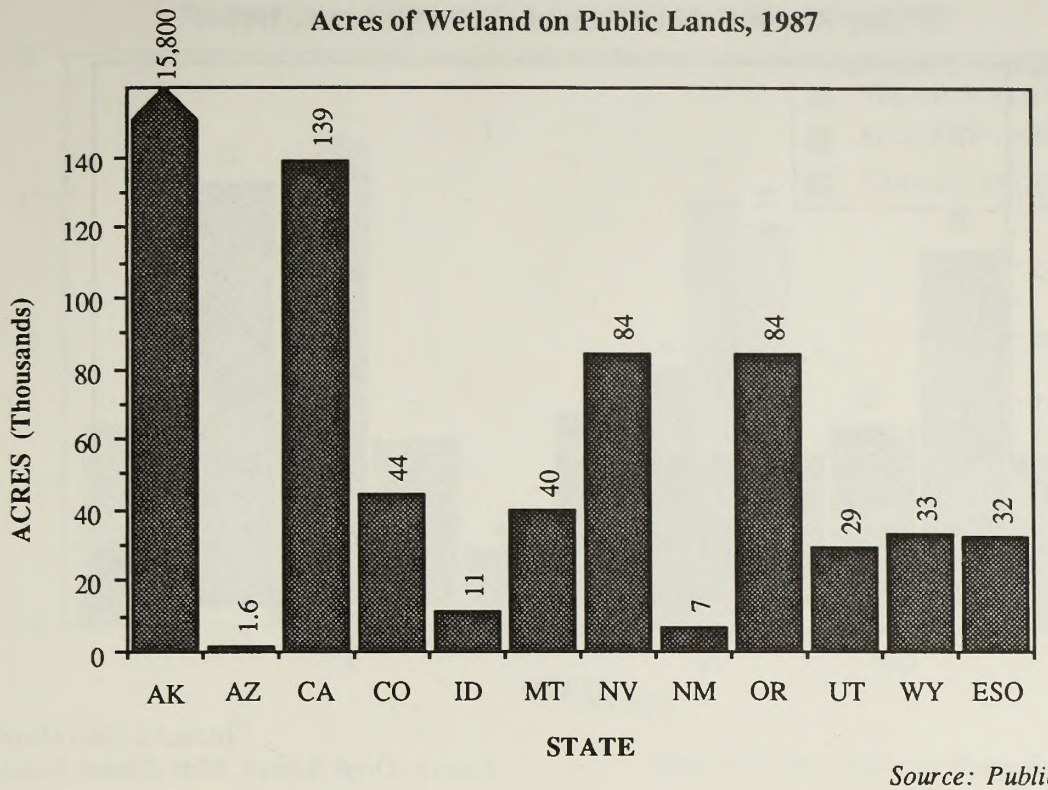
• The graph below represents annual maintenance accomplished. Major reconstruction (more than 50 percent of the total project value) is not included.



Waterfowl/Wetland Habitat Management

• An ad hoc interdisciplinary waterfowl habitat team was established in 1987 to develop strategies for achieving the waterfowl objectives identified in *Fish and Wildlife 2000*. The report will be out in final form in the summer of 1988.

• The goal for waterfowl habitat management as identified in *Fish and Wildlife 2000* is to help perpetuate a diversity and abundance of waterfowl for the Nation by managing the wetlands and other habitats on the public lands that are of importance to the maintenance of this international resource.



Source: Public Land Statistics

Raptor Habitat Management

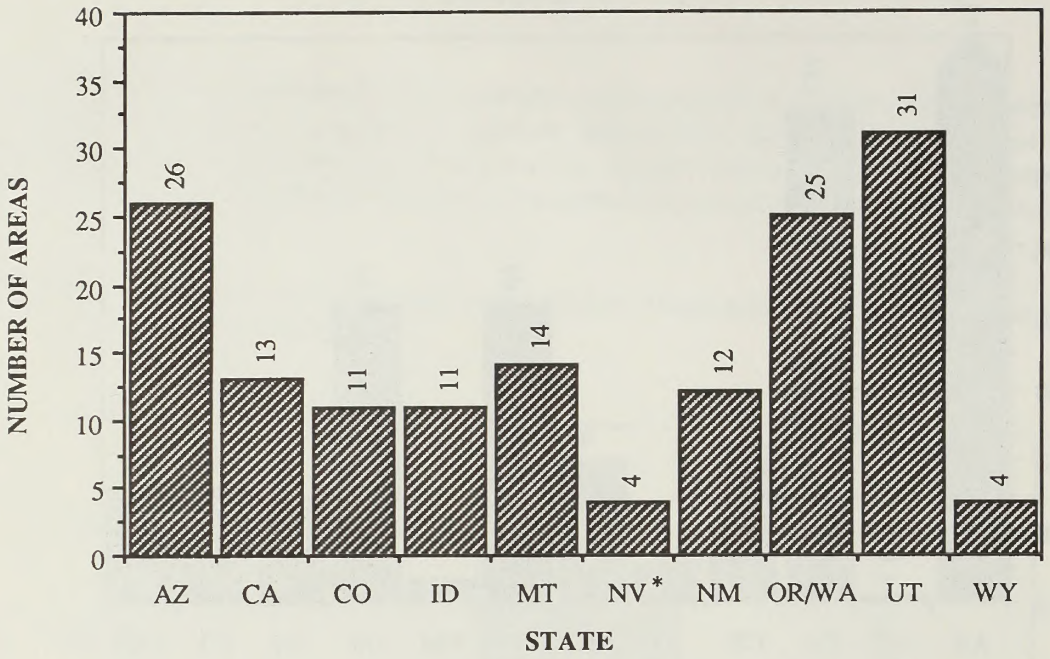
- An ad hoc interdisciplinary Raptor Habitat Team was established within the Bureau in 1987 for the purpose of developing strategies for achieving the raptor habitat goals and objectives identified in *Fish and Wildlife 2000*, the Bureau's strategic plan for its wildlife and fisheries program.

- The raptor habitat goal as identified in *Fish and Wildlife 2000* is to provide suitable habitat conditions for birds of prey on public lands through the conservation and management of essential habitat components, including habitat for prey species, especially in areas where birds of prey concentrate during some period of the year, or in important habitats where populations are suppressed.

- The areas identified in the graph below will be specifically identified in the Raptor Team's report, to be completed during 1988.

- Areas include crucial habitat components (nesting, feeding, etc.). Sizes vary from 150 acres to 500,000 acres.

Key Raptor Habitat Areas on the Public Lands, 1987



**Includes Elko District only.*

Source: Draft Report, BLM Raptor Habitat Team

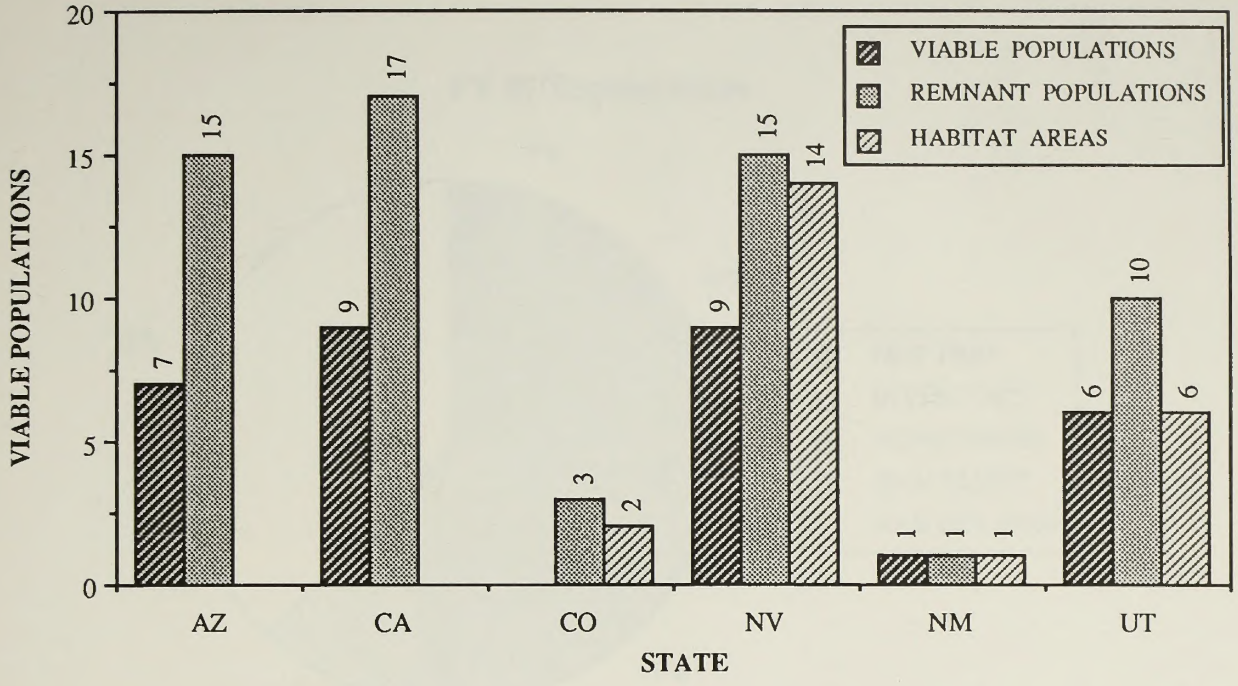
Desert Bighorn Sheep Habitat Management

- Approximately 80 percent of the desert bighorn habitat is on public lands administered by BLM. Congress in 1985 recognized the need to address the continued decline of desert bighorn sheep populations in the southwestern United States through a challenge grant (matching fund) appropriation. Since 1985 approximately $600,000 per year ($300,000 appropriated funds and $300,000 State and private funds) have been expended toward the recovery of desert bighorn sheep on public lands. A rangewide plan for desert bighorn sheep has been completed this year which lays out specific goals and objectives to expedite recovery and maintenance of self-sustaining populations.

- Goals:

  - Maintain or enhance 32 habitat areas currently supporting viable populations of desert bighorn sheep.
  - Enhance habitat on 60 habitat areas with remnant herds that are capable of supporting viable populations.
  - Maintain and enhance historic habitat in 23 habitat areas to allow reintroduction and reestablishment of viable populations.

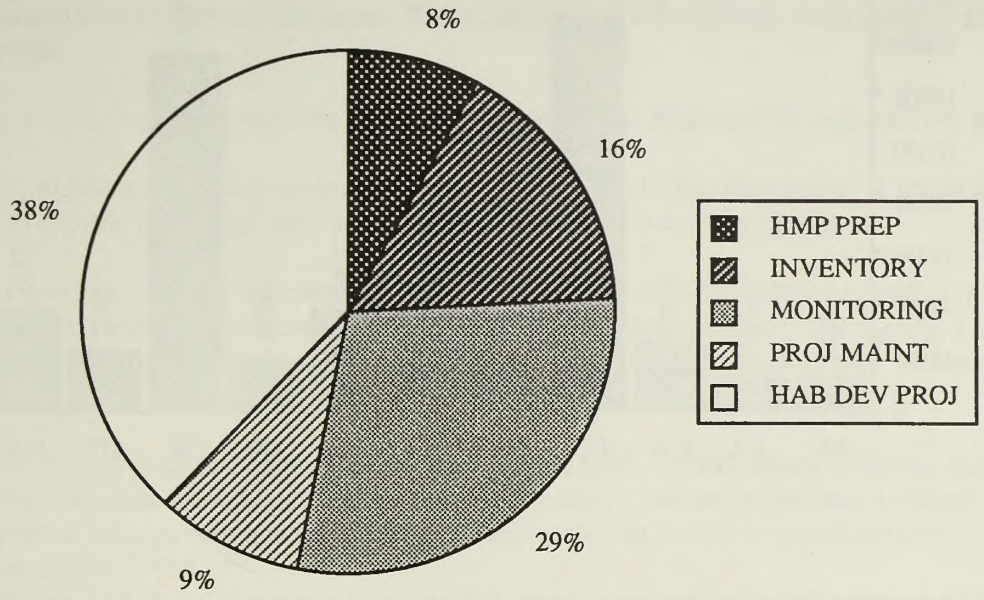
Staus of Desert Bighorn Sheep Habitat on Public Lands, 1987



Source: Desert Bighorn Sheep Rangewide Plan

FISHERIES HABITAT COMPONENT

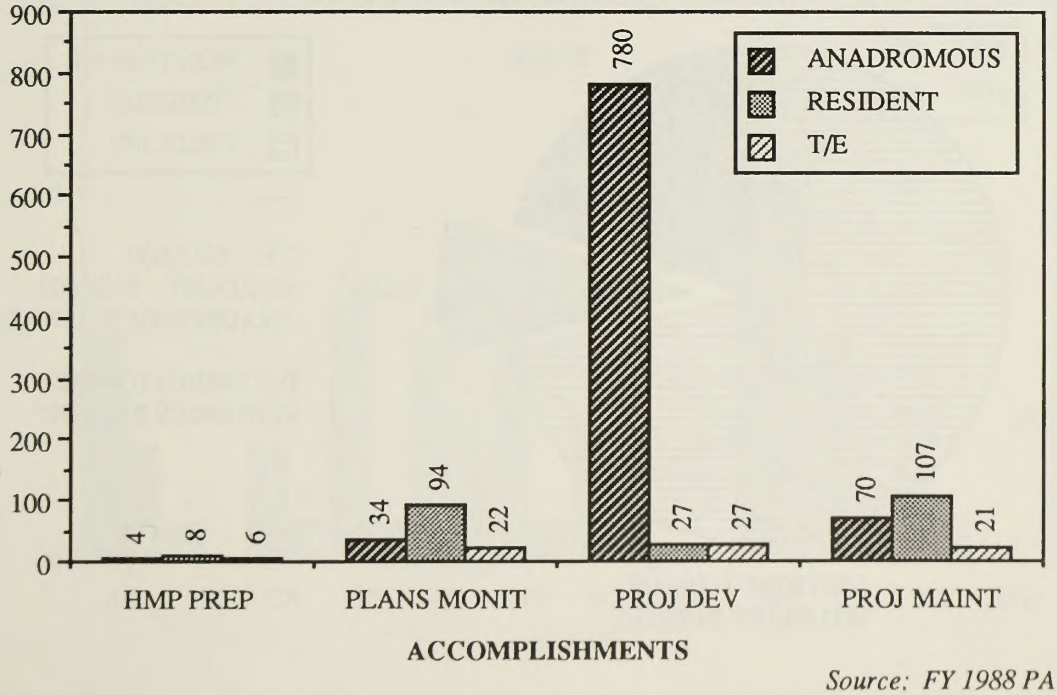
FY 87 Expenditures



Note: Expenditures based on a FY 1987 Budget of $1.48 million for anadromous, resident, and T/E fish habitats.

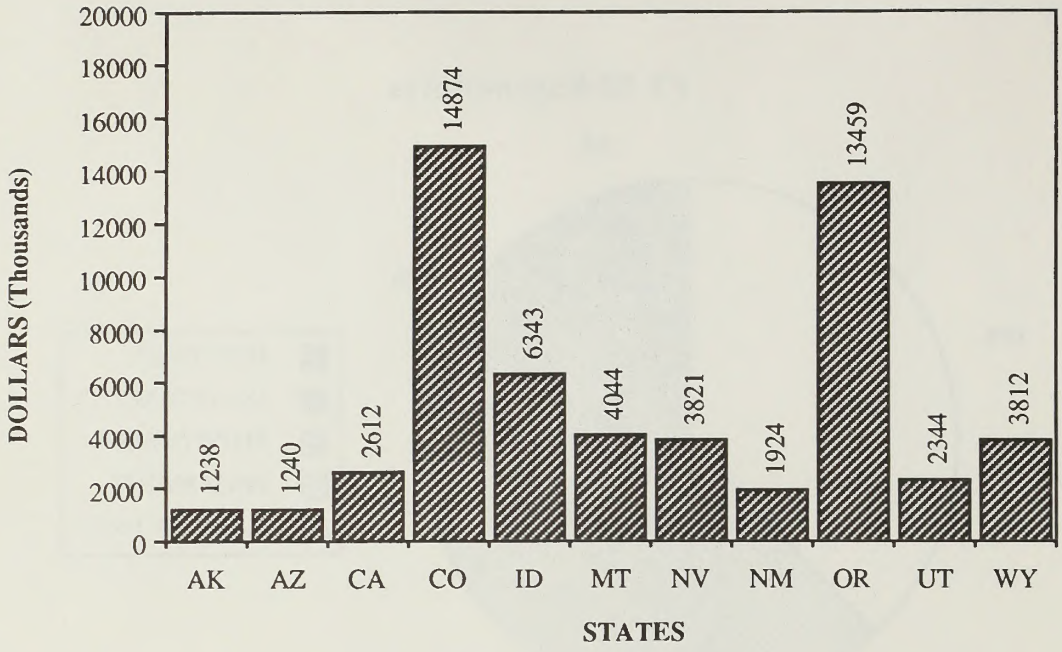
Source: Desert Bighorn Sheep Rangewide Plan

Units of Accomplishment for Anadromous, Resident, and T/E Fish



Source: FY 1988 PAWP Feedback

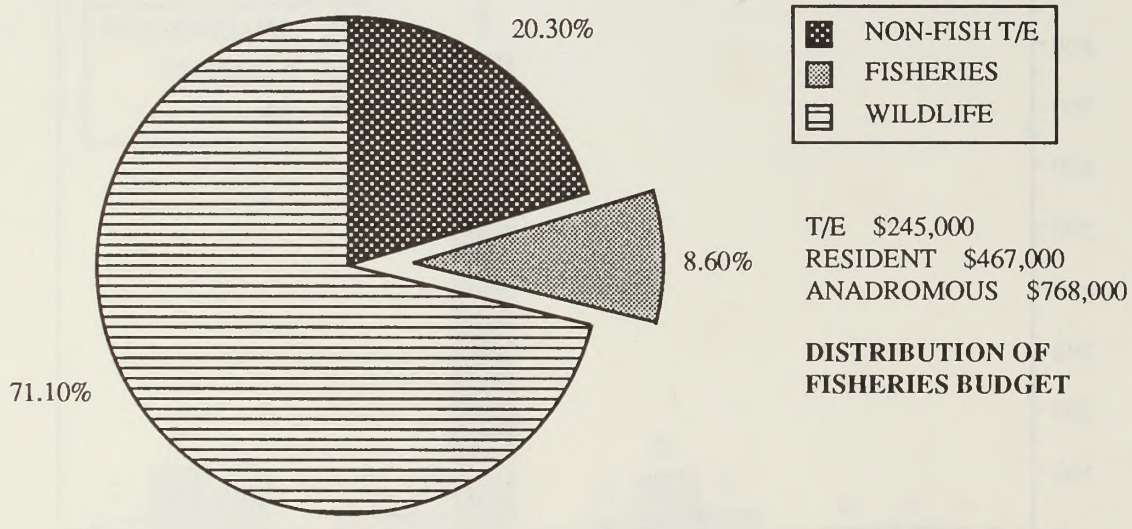
Value of Recreational Fisheries



- Does not include commercial values for anadromous fish spawned and reared on BLM lands. 1983 estimate is $40 million mostly in Alaska.

- Graph based upon BLM statistics and the 1980 and 1985 Surveys of Hunting and Fishing.

BUDGET COMPARISON, 1987



Based on FY 1987 appropriation of $16.1 million for PD wildlife and $1.15 million for O&C fish and wildlife.

Fisheries Program Emphasis - 1987

- In 1987, 18 new fisheries HMPs were prepared; 834 habitat improvement projects (mostly instream structures) were developed and 198 habitat projects were maintained. Most of the habitat improvement work occurred on O&C lands in western Oregon, where the productivity was increased in 14 miles of stream by the construction of 600 instream structures, 76 rearing pools, 5 side-channel developments and 1 fish passage project.

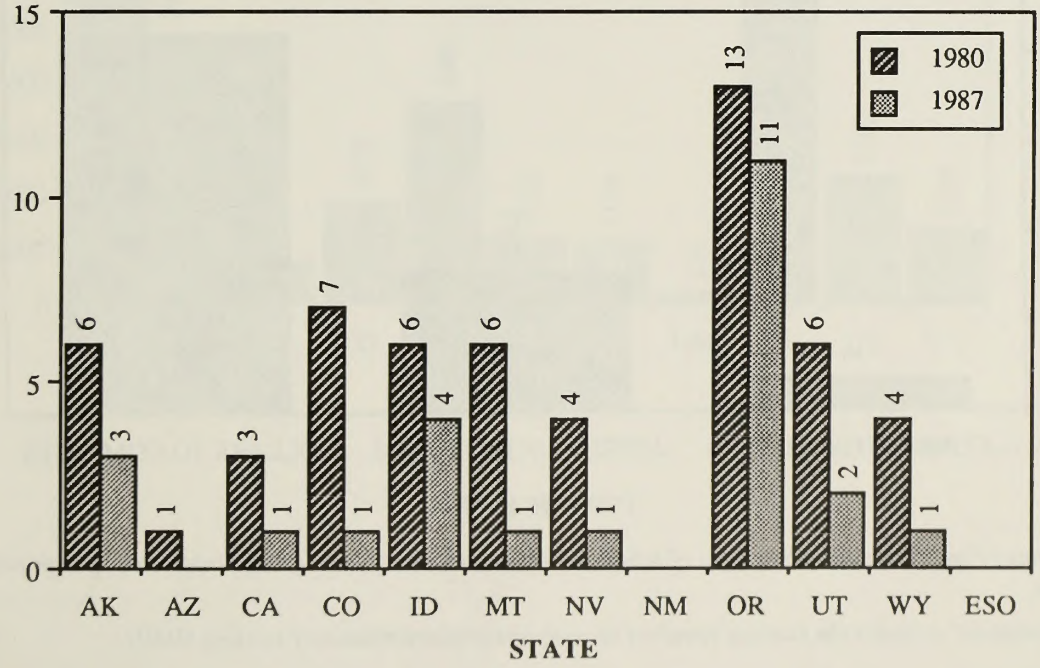
- Monitoring was performed on fisheries related objectives in 150 BLM activity and land use plans.

- In Colorado, BLM signed a Cooperative Agreement with the Colorado Division of Wildlife and Trout Unlimited to provide matching funds and volunteer labor for enhancement projects.

- The Bureau continued to focus attention and commitment on an interdisciplinary initiative for riparian area management. Accomplishment included issuance of a Bureau riparian policy and signing a national cooperative agreement with the Izaak Walton League and other conservation groups for the enhancement of riparian areas.

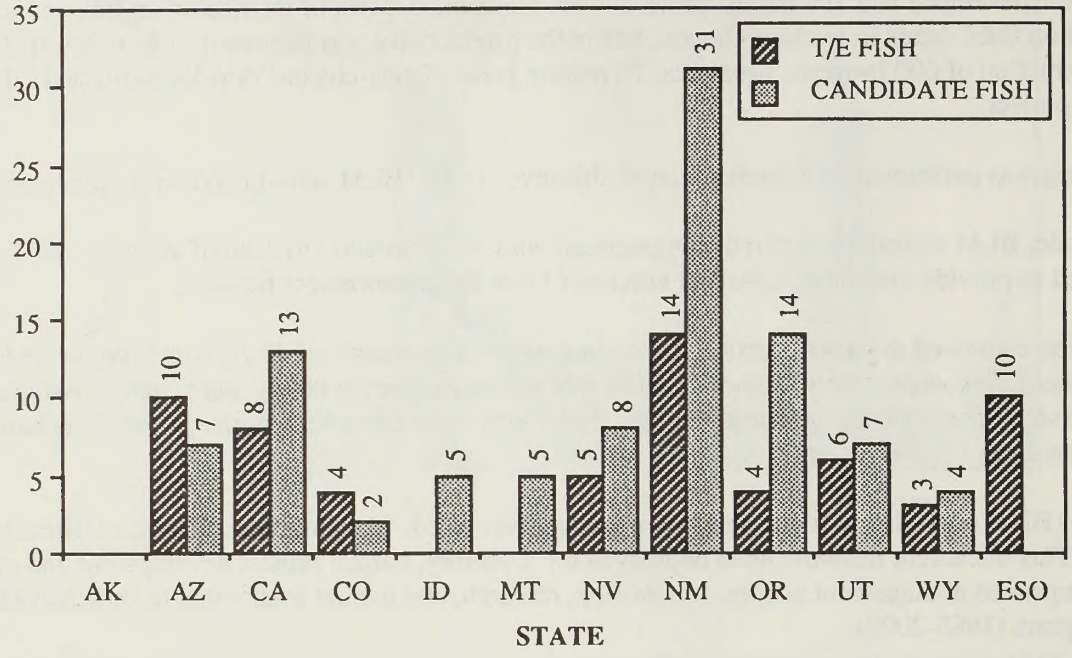
- A team of BLM biologists and managers prepared a report titled, "Anadromous Fisheries Habitat on Public Lands." This document recommended objectives for inventory, habitat project development and maintenance, improved management actions, monitoring, research, and habitat acquisition to be achieved in the next 12 years (1988-2000).

- In 1987, a team comprising BLM managers and biologists, two State fish and wildlife directors, and the executive directors of the American Fisheries Society, was established by the Director to make an assessment of the overall fisheries program and to develop strategies for the future.

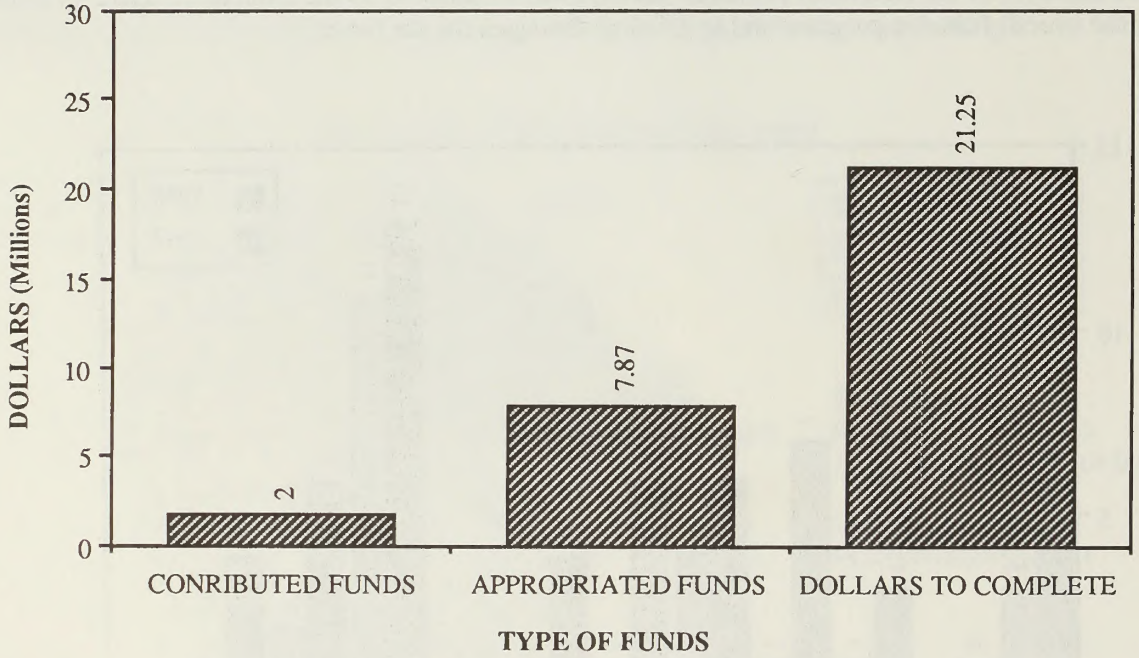


FISHERIES HMPs

T/E Candidate Fish



Expenditures for Fisheries Related HMPs



Note: "Contributed Funds" includes donations of labor, material, and money from groups interested in improving fisheries habitat.

Note: "$$ to Complete" includes the funding required to complete implementation of existing HMPs

Source: HMP Statistics Data Base, 1986

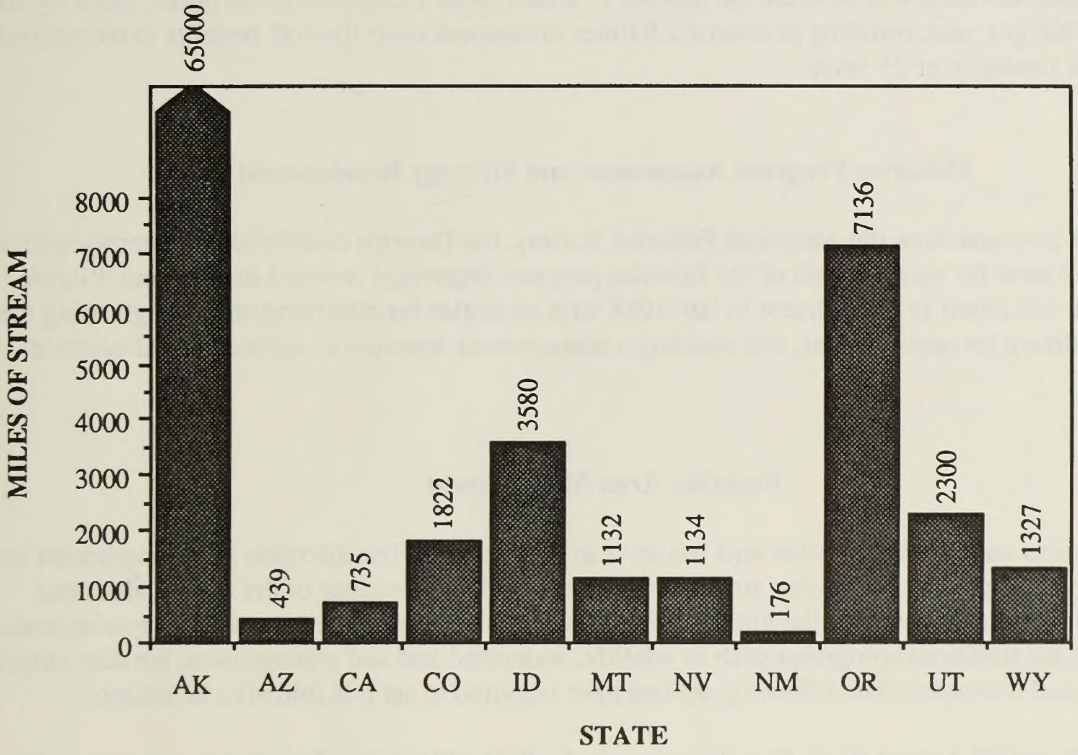
Existing Fisheries HMPs

- Fish are the priority species in 106 (26 percent) of the 399 existing HMPs.
- Over 3,100 miles of stream are included within the 106 existing fisheries HMPs.
- T/E and Candidate fish are the priority species for 50 of the 106 existing fisheries HMPs.

Proposed HMPs

- Thirty-one new fisheries HMPs, which will include 3,900 miles of stream, will be prepared in the next three years.
- T/E and Candidate fish are the priority species for 11 of the 31 proposed fisheries HMPs.

Miles of Fish Habitat in Each BLM State



Source: Public Land Statistics, 1986

FISHERIES PROGRAM INITIATIVES

Anadromous Fisheries Habitat

During the early 1980s, the concerns of many people about the severe economic consequences of depressed wild coho populations resulted in Congressional funding to plan and design fish habitat improvement projects on BLM lands to increase the productivity of 985 miles of coastal Oregon streams. As a result, the "Five-Year Comprehensive Anadromous Fish Habitat Enhancement Plan for Oregon Coastal Rivers" was developed. The Bureau received $475,000 in FY 1986; $485,000 in 1987; and $250,000 in FY 1988 to complete priority projects listed in the 5-year enhancement plan.

To build on the anadromous fisheries objectives approved as a part of *Fish and Wildlife 2000*, a team of BLM biologists and managers prepared a report in 1987 titled "Anadromous Fisheries Habitat on Public Lands." This document identified strategies for anadromous fish habitat management Bureauwide related to inventory, habitat project development and maintenance, improved management actions, monitoring, research, and habitat acquisition to be achieved in the next 12 years (1989-2000). The costs of the projects and management actions described in this plan would be approximately $25\million over a 12 year period. Full funding and implementation will increase the number of anadromous fish produced on public lands by 20 percent or 172,000 per year, resulting in returns 2.5 times investment costs through benefits to recreational and commercial fishing over 25 years.

Fisheries Program Assessment and Strategy Development

In response to a proposal from the American Fisheries Society, the Director established an interdisciplinary team to chart a course for achieving all of the fisheries program objectives outlined in *Fish and Wildlife 2000*. The team will report to the Director in late 1988 with strategies for clarifying and strengthening the program, capitalizing on opportunities, and building a management structure to achieve a goal-oriented program.

Riparian Area Management

In 1985, the Bureau undertook a riparian area initiative to focus appropriate attention and commitment on interdisciplinary management of riparian areas administered by BLM. Because of the many values and benefits of healthy riparian systems, the initiative emphasized a multidiscipline approach to riparian management, involving the traditional programs such as wildlife, watershed and soil management, but also range, forestry, lands, and recreation. The following actions have occurred to set this initiative in motion:

- The FY 86, 87, and 88 Annual Work Plan directives to the field offices established management of riparian/wetland areas as one of the highest priorities in the Bureau's fish and wildlife, watershed, and range programs. The current program includes input of riparian considerations into land use and activity plans, riparian area monitoring, and habitat improvement projects.

- In January of 1987, the Bureau Director signed a Riparian Area Management Policy, which stresses the interdisciplinary, multi-resource character of riparian area management and that all programs - range, watershed, forestry, lands, minerals, etc.-have the responsibility to assure that the basic riparian area components of soil, water, and vegetation are taken into consideration when conducting their program activities.

- Several BLM State Offices (OR, ID, MT, UT, AZ, WY) have developed Supplemental Riparian Policies, and all States have prepared Riparian Management Strategies.

- Public information materials on riparian management, including fact sheets, videos, slide shows, and displays, have been distributed to field offices.

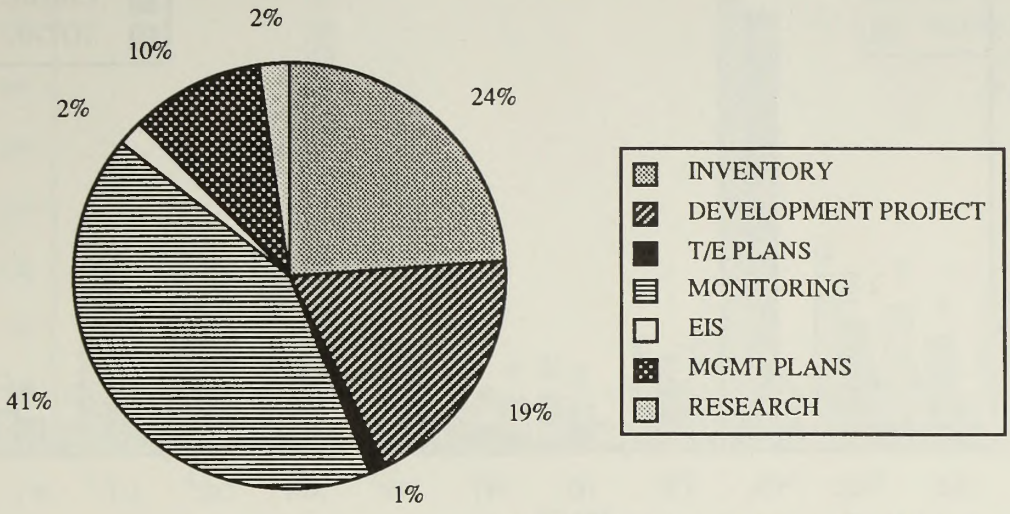
- There has been increased "riparian consciousness" among BLM resource specialists and managers and public land users through BLM-sponsored workshops and tours.

- There has been increased emphasis and application of the "riparian pasture concept" in which livestock grazing is permitted only when and where it is compatible with maintaining and enhancing riparian habitat values.

- The BLM Director has required that each District Office develop at least one riparian demonstration area, where the best management practices and instream habitat improvement work have been or will be implemented.

THREATENED/ENDANGERED SPECIES COMPONENT

FY 87 Expenditures

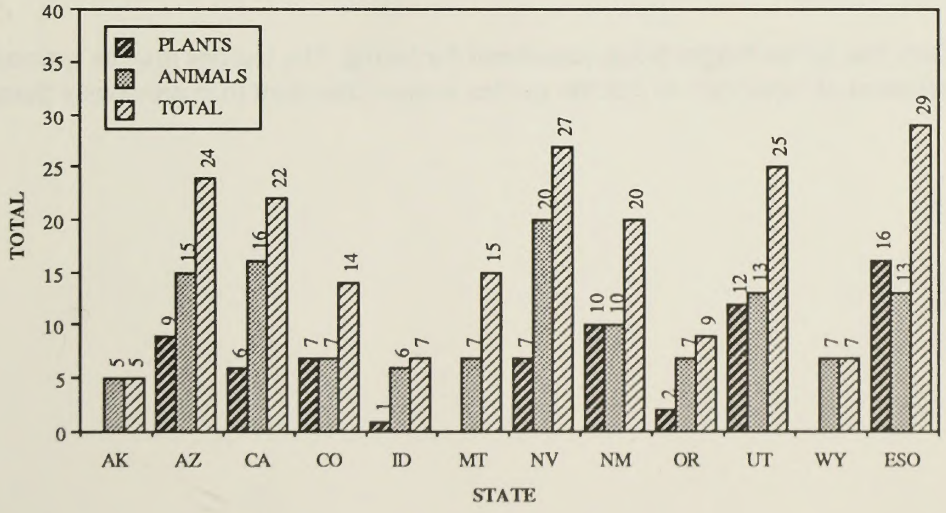


Note: Expenditures based on FY 1987 budget of $3.9 million.

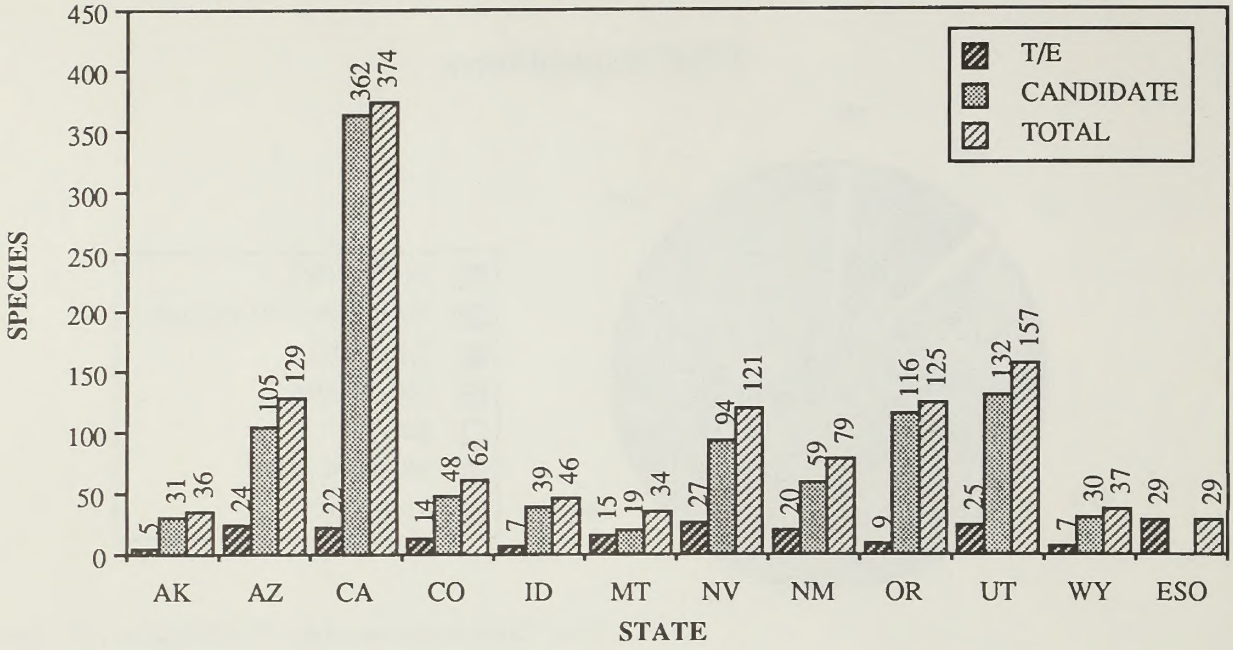
Source: BLM Financial Management System, 4352

FEDERALLY LISTED T/E SPECIES IN BLM STATES, 1987

- The Bureau's T/E species management is designed to comply with the requirements of the Endangered Species Act to avoid jeopardizing the continuing existence of T&E species and help bring about their recovery. Emphasis is on maintaining the collection of baseline data and cooperative studies to develop and implement management plans, and on activities to help prevent proposed or candidate species from being listed as threatened or endangered. It also requires use of such data to ensure that Bureau actions do not jeopardize T&E species so that other resource development programs move ahead without unnecessary delays.



Special Status Species



• T/E species are those that are officially listed by the Fish and Wildlife Service as threatened or endangered.

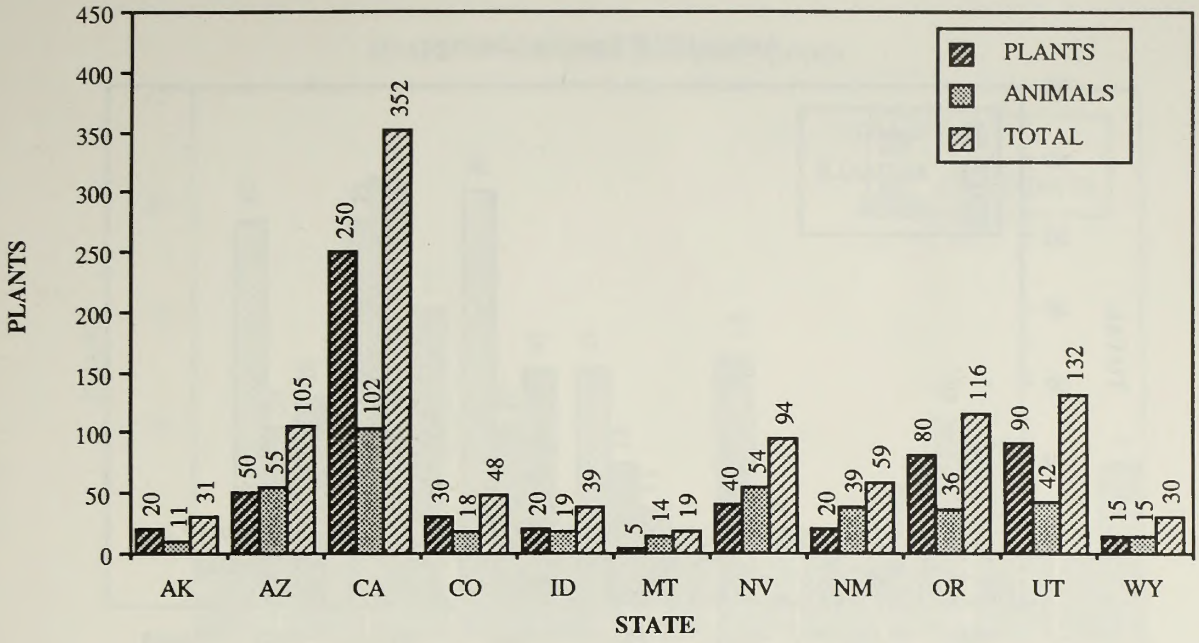
• Candidate species are those plants and animals included in Federal Register "Notices of Review" that are being considered by the Fish and Wildlife Service for listing as threatened or endangered. The public review is intended to gain additional information from all sources on the species that are "candidates" for listing. Lists have been published for plants, vertebrates and invertebrates. Each list has three primary categories. These are:

Category 1. Taxa for which the FWS has the information needed to substantiate the need for listing. Listing proposals are either being prepared or have been delayed by higher priority listing work.

Category 2. Taxa for which the FWS has information to substantiate that listing may be necessary. Additional information is being collected.

Category 3. Taxa that are no longer being considered for listing. The reasons may be extinction, not meeting the definition of "species," or that the species is more abundant than previously thought.

CANDIDATE SPECIES, 1987



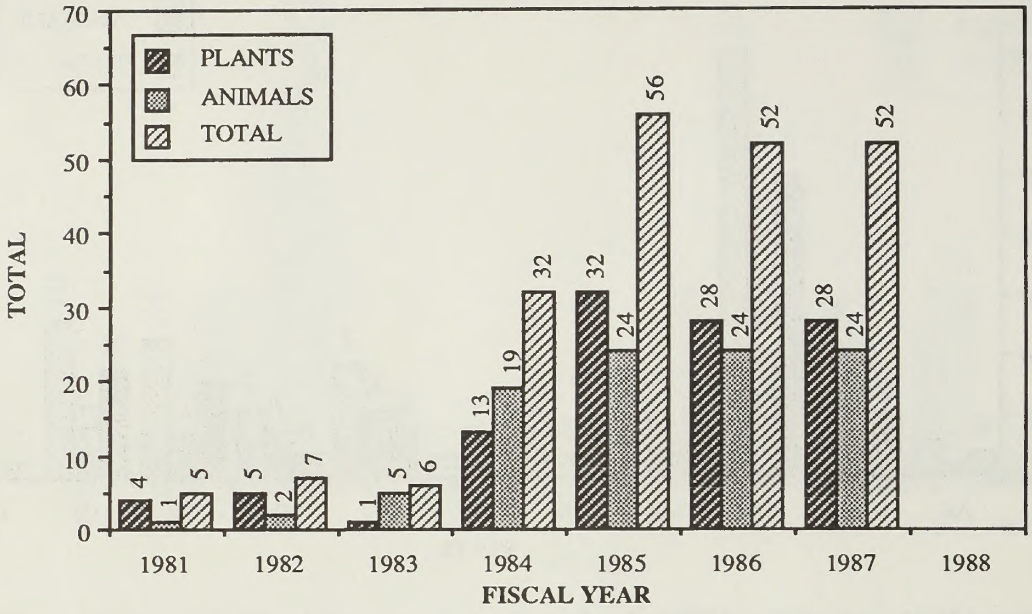
- There are some 620 plant species and 250 animal species that occur on the public lands that are candidates for listing as T/E.

- Where such species occur, management directives and actions will be addressed in the land use planning process and in development of habitat management or other resource management plans.

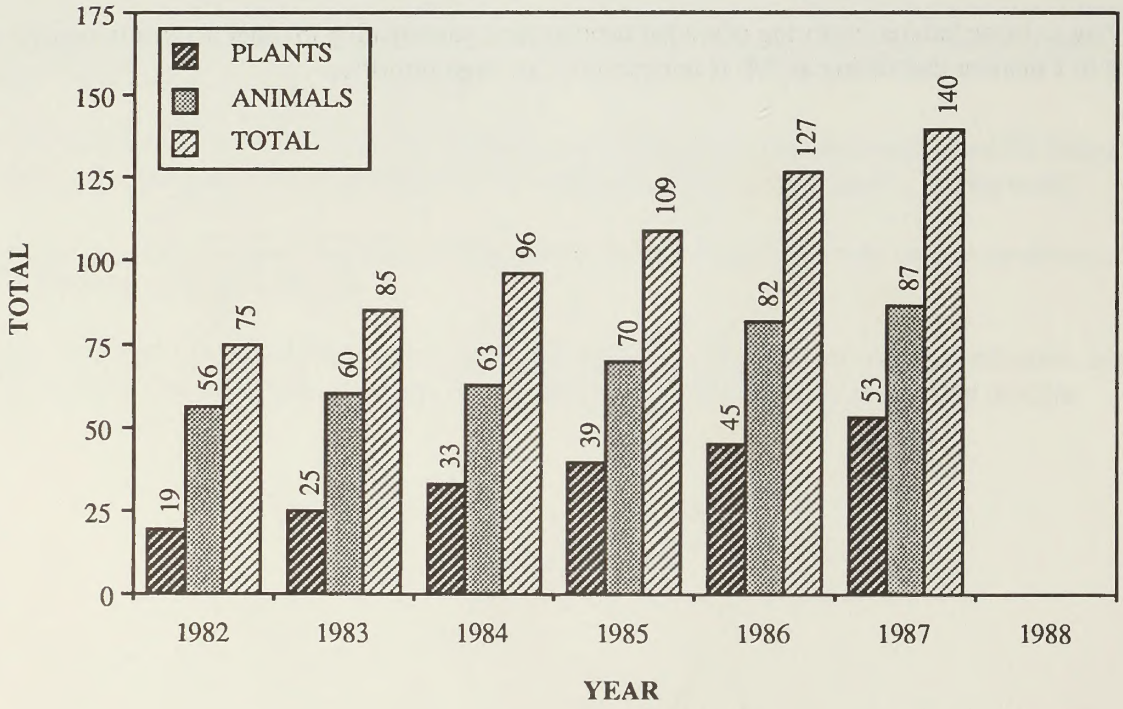
- Preserving existing habitat, restoring degraded habitats, and participating in other actions to manage these species in a manner that listing as T/E is unnecessary, are high priorities.

LISTINGS BY FWS

Annual T/E Species Listing

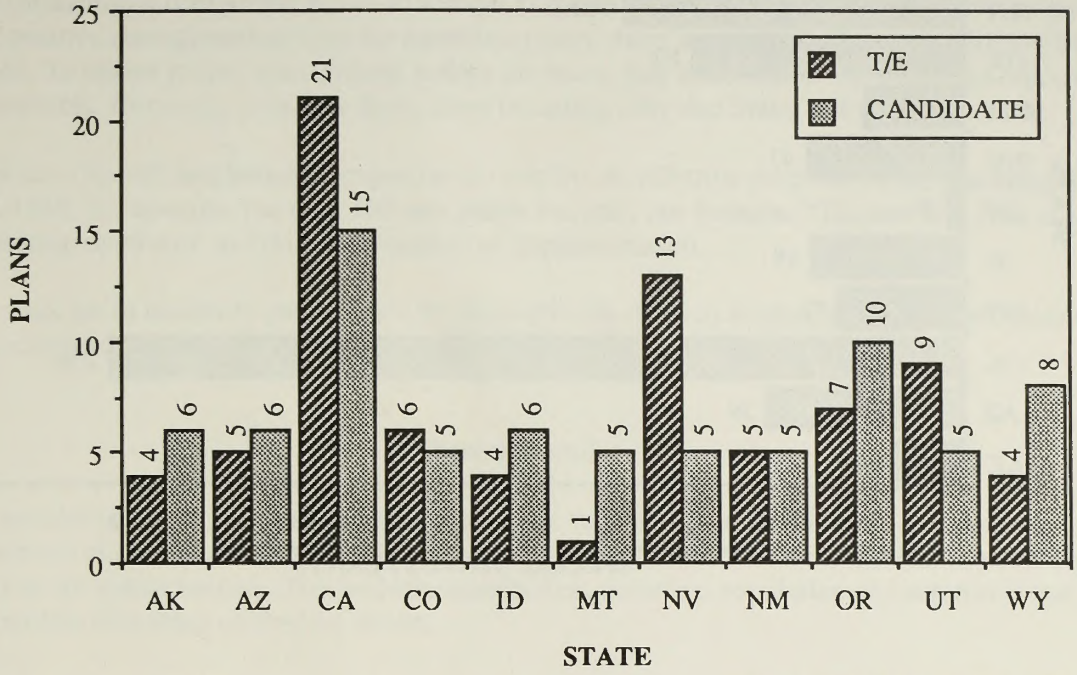


Total Listed Species BLM Trends



T/E PROGRAM SPECIAL ISSUES

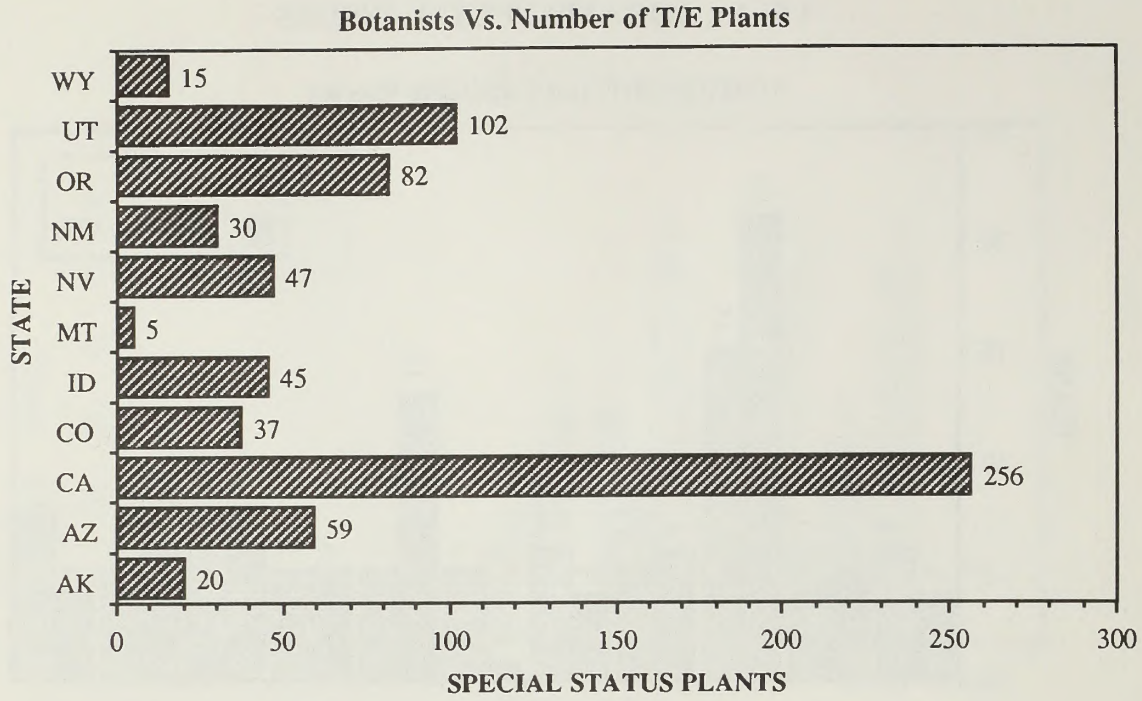
HMPs for T/E and Candidate Species



Source: HMP Statistics Data Base, 1986

Recovery Plans

	Animal	Plants	Total
Number of Plans	57	16	73
Plans being Implemented	40	16	56
Species Lacking Plans	25	29	54
Plans being Developed	6	6	12



Spotted Owl

The northern spotted owl occurs on lands administered by the BLM in the Pacific Northwest. There is considerable controversy on the effects of old growth forest harvest on spotted owls. Current data indicate that this species prefers old growth/mature forest stands and depends, to a large extent, on these areas for its habitat requirements.

The FWS was recently petitioned to list this species as an endangered species throughout its range. The FWS found that listing was not warranted. However, their conclusion indicated that there are some important data gaps in the existing information.

On December 22, 1987, the BLM signed an agreement with the Oregon Department of Fish and Wildlife to manage 110 spotted owl habitat sites. This agreement is to provide the management necessary to avoid jeopardizing the suitability of the sites for spotted owl habitat through the expected completion date of the 1990s Resource Management Plans for western Oregon. To ensure that this planning effort has the best information available and that the data are current, the BLM must intensify the effort devoted to monitoring the type of habitat used by spotted owls. Also, additional information on the basic life history of spotted owls and management techniques for existing habitat is being gathered. There is the potential for restrictions on timber harvest practices if proper management actions are not initiated.

The relationship of continued harvest of old growth forest in the Pacific Northwest to spotted owl abundance is a matter of considerable interest and concern to many. To better understand these relationships, it is important to know how old growth is used by spotted owls, how well populations are doing, including reproduction and survival, and how habitat can be managed for the benefit of spotted owls.

T/E and other Rare Plants

The BLM provides habitat for 45 plants listed as Threatened or Endangered and more than 600 plants that are candidates for listing. It is expected that 5-10 additional species will be listed as T/E each year. In the absence of positive management actions for candidate plants, there is a high likelihood that additional plants will be listed. To ensure proper management actions are taken, key areas should have professional botanical expertise available. Currently, only four States have botanists; only two States have more than one.

Most States have insufficient botanical expertise to carry out an effective program for the management of rare plants. Utah, for example, has over 100 rare plants and only one botanist. This provides little opportunity for active management such as HMP development or implementation.

The basic needs are to inventory public lands for these species, develop management plans to ensure their continued existence, and monitor management actions to ensure objectives are being met.

Desert Tortoise

The desert tortoise occurs in the desert areas of California, Arizona, southern Nevada, and southwest Utah. About 63 percent of the remaining habitat is managed by BLM. Since 1974, the BLM has been collecting information on the desert tortoise. This includes distribution, densities, population characteristics and condition, and conflicts with other uses of the desert.

In 1980, the Utah desert tortoise population was listed by the FWS as threatened. BLM has continued to monitor this population and is developing management intended to remove existing threats.

Reduced populations in all States are attributed to a combination of factors. The most significant are (1) loss of habitat to agriculture, cities, highways, etc.; (2) deterioration of habitat from grazing, ORV Use, and other land uses; (3) collecting for commercial use and as pets; and (4) vandalism.

The FWS contracted with the Desert Tortoise Council in 1983 to compile all the existing information on the desert tortoise into a status report. This report presents substantial information to indicate downward trends in most populations. Based on this information, the FWS was petitioned on September 12, 1985 to list all populations of desert tortoises as endangered. The FWS has completed a review of the petition and status report and found that listing the desert tortoise as endangered is warranted, but a listing proposal, as required by the ESA, is precluded by other higher priority work.

In April 1986, a team of biologists and managers was established by the BLM Director to develop strategies and recommendations for managing tortoise habitat on a rangewide basis. For over a year this team analyzed this matter and produced a report and submitted its recommendations to the Director. Recently, the Director approved an implementation plan which requires:

- Completion of State level implementation plans in consultation with State wildlife agencies.
- Delineation of habitat areas and categorizing habitats based upon manageability and population status and trends.
- Standardizing inventory, monitoring and analytical procedures.
- Identifying specific habitat management objectives in areas where tortoises are to be managed.

- Managing habitat areas as integral components of public lands on basis of multiple use to ensure sustained populations.
- Consolidation of State implementation plans into a Bureauwide plan.

EXAMPLES OF BLM'S ON-THE-GROUND ACTIONS AND PARTNERSHIPS

ANADROMOUS FISHERIES HABITAT IMPROVEMENT EFFORT

In Oregon in recent years, the Bureau has expended considerable effort to maintain and improve the natural production of anadromous fish habitats. Many cooperative endeavors have occurred among the Bureau, State agencies, and sportsmen groups relating to salmon and steelhead management and habitat improvements.

The Bureau has been most active in Oregon. The program has progressed from primarily log debris clearance work and fish passage projects for instream construction to improve or create spawning and rearing areas. A "Five-Year Comprehensive Anadromous Fish Habitat Enhancement Plan for Oregon Coastal Rivers" has been developed and implemented. The Bureau received $475,000 in FY 1986 and $485,000 in 1987 to complete priority projects listed in the plan. In 1987, the productivity of almost 100 miles of habitat has been increased by the construction of over 600 instream structures, 76 rearing pools, 5 off-channel developments, fish passage projects, and other means.

Specific examples of fisheries enhancement work occur in three streams in Lobster Valley in BLM's Salem District. The projects involve placing log sills and boulder berms to create gravel beds for spawning coho and chinook salmon. A similar project in the area on a part of the East Fork Lobster Creek in 1981 resulted in an adult coho return six times greater than control areas within the Lobster Creek drainage. The streams in the 1987 project are Lobster, East Fork Lobster, and J-Line Creeks.

In California, BLM has been an active member of a 14-agency task force to restore anadromous fisheries habitat in the Trinity River basin. In addition, about $400,000 in labor and materials have been expended over the past 20 years on habitat improvement efforts on BLM administered sections of the Shasta River, Weaver Creek and streams in the Kings Range.

The Bureau's ad hoc interdisciplinary Team on Anadromous Fish Habitat has just completed a report and recommendations for future management of habitat in Alaska, California, Idaho and Oregon. The habitat management recommendations will be implemented as funds are available.

RIPARIAN AREA MANAGEMENT

Riparian areas, the strip of green vegetation along streams and associated uplands, purify water by collecting silt in vegetation, help control floods by slowing water flow, contribute to ground water retention, and support fish and wildlife with food, cover, and protection from extreme temperatures. Throughout each of the western States, BLM is implementing on-the-ground management and demonstration projects cooperatively with ranchers and a host of organizations.

In January 1987 the Director signed a Riparian Area Management Policy. The new policy stresses the interdisciplinary, multi-resource character of riparian area management and all programs - range, watershed, forestry, lands, minerals, etc.,-have the responsibility to assure that the basic riparian area components of soil, water, and vegetation are taken into consideration when conducting their program activities. The policy

includes seven statements that serve as guidance to field managers on how to maintain, protect and improve riparian values. Two of these statements have especially far-reaching implications:

- New resource management plans and program-specific activity plans (e.g., livestock grazing management plans, timber management plans) must recognize the importance of riparian areas, and include actions to restore, maintain or improve them. This also applies to existing plans when they are updated.

- BLM managers are required to monitor and evaluate management activities in riparian areas and to revise management practices where site-specific objectives are not being met.

Currently, each field office is developing at least one riparian demonstration area, where the best management practices and instream habitat improvement work have been or will be implemented. These areas will demonstrate the benefits and resiliency of riparian systems to BLM resource specialists and managers, livestock operators, conservation groups and other public land users. Considerable cooperative efforts are underway in most States, cooperatively with ranchers and a host of others, to manage and restore riparian areas. To illustrate, in Wyoming, rancher cooperation led to significant improvements in about 300 miles of stream through proper livestock grazing and herding practices.

Considerable interest and volunteer support is occurring. For example, volunteers from the Izaak Walton League and Oregon Department of Fish and Wildlife joined with Burns (Oregon) District personnel to begin building the 1.5-mile Fields Creek fence near Fields, Oregon. This is the first effort resulting from an agreement between federal and State agencies and several conservation groups which was signed in mid-March 1987. The Fields Creek fence will permit management of the riparian zone by controlling livestock grazing seasons and patterns in the area, enabling improved vegetation cover, healing of bare stream banks and reduced sedimentation from channel erosion.

WATERFOWL HABITAT MANAGEMENT

Considerable waterfowl habitat exists on some areas of the public lands. BLM has established an interdisciplinary team to identify strategies for better managing this habitat in support of the North American Waterfowl Management Plan. An example of what can be done is the Pariette wetlands in Utah. As a result of BLM's on-the-ground cooperative management program with the State, duck and goose production increased dramatically and habitat for a variety of raptors and other non-game improved significantly. Other efforts to manage and improve habitats are underway in Montana, California, Colorado and elsewhere. Increasingly, habitat improvement work is being conducted jointly with Ducks Unlimited and local conservation groups.

In Oregon, the U.S. Marines teamed up with BLM's Eugene wildlife habitat biologists to turn an unproductive boggy area into a small pond that will improve habitat. The Marines, reservists in an engineering platoon, used dynamite to blast a hole in the middle of the bog. The hole is filling with water, which will provide animals a place to drink, and perhaps attract ducks to the area. At one time the area probably was a pond. The idea is to set back plant succession. This is the fifth time the Marines have volunteered their time and skills to improve wildlife or fisheries habitat within the Eugene District.

In California, BLM wildlife biologists directed the installation of wood duck nest boxes on the Sacramento River. The work was done by a National Resources class from Shasta College, and the nest boxes were constructed with California Department of Fish and Game "fine" money.

In the Worland District of Wyoming, utility poles and wooden platforms were used in restoring Wardell Reservoir's long-used nesting area for great blue herons. When herons return to the Bighorn Basin for their annual mating ritual in the Spring, they'll find about 40 ready-made nesting platforms just a few yards away from the familiar cottonwoods. The artificial rookery is expected to provide the herons with housing for the next 50 years.

ISOLATED TRACTS IN IDAHO

Historically, southern Idaho has been one of the Nation's leading upland gamebird areas. As farms were cut out of the sagebrush plain, ring-necked pheasants thrived in the mosaic pattern of agriculture and native range. The birds depend upon agriculture for most of their nesting and feeding needs but took refuge in the dense stands of sagebrush during the winter when there was no cover on the agricultural lands. As more land was put under the plow, the native winter cover began to decline. This loss of winter cover, coupled with more efficient farming methods, led to a drastic decline in pheasant numbers during the 1970s.

The Isolated Tract Program was implemented to provide winter and nesting habitat for upland gamebirds. This has been accomplished by managing a relatively small number of strategically located tracts to support stands of brush for winter cover and by entering into cooperative farming agreements with adjacent landowners to provide prime, undisturbed nesting habitat on public lands.

The Idaho Dept. of Fish and Game has been a partner with the Bureau in this initiative. Roughly one-half of these tracts have required fencing, seedings, plantings, and other developments to enhance the habitat values. The other tracts have not required improvements and minimum expense has been incurred in managing these lands.

Public support for the program has been high. The tracts receive heavy use during the hunting season. In addition to Idaho residents, large numbers of out-of-State hunters travel to the area to hunt pheasants. Two sportsmen groups have planned improvements on Isolated Tracts. Volunteers have devoted many hours to help manage and improve those areas. Pressures to keep these wildlife tracts in public ownership have been high.

RESORATION OF WILDLIFE HABITAT DESTROYED BY WILDFIRES IN IDAHO

Hundreds of volunteers are assisting BLM in planting seeds and shrubs to restore big game winter range and other wildlife habitat destroyed by fire on several hundred thousand acres in Idaho.

Wildfires have increased dramatically in southern Idaho since the introduction and spread of cheatgrass. Cheatgrass, an exotic species brought into this country in the 1800s, is especially common in southern Idaho below 5000 feet in elevation. After cheatgrass dries in late spring and until the fall rains come, it provides a flash fuel which burns much more readily than the native perennial grasses. The native grasses and especially the native shrubs did not evolve with this frequent fire and have not been able to survive well in this new fire regime. Consequently, hundreds of thousands of acres of shrublands have been replaced with cheatgrass and other exotic annuals.

Large numbers of big game animals have been forced to leave their traditional winter ranges and moved from shrubless areas burned within the last 15 years. Many of these animals ended up near towns and agricultural areas feeding on haystacks, at Idaho Department of Fish and Game feed stations or dead along highways or the main line of the Union Pacific railroad.

One example of BLM's effort to decrease the frequency of fires and begin restoring some of the cheatgrass rangelands is the development and implementation of various Greenstripping and Shrub Restoration Plans, in partnership with Idaho's Department of Fish and Game and others.

Another is the Boise District's Bureau Resource Area, where range conservationists, biologists, and their families donated part of their weekend recently to plant several varieties of a native shrub, in an experimental enclosure at the 480,000-acre Birds of Prey Area. In the past 10 years, nearly half of the Area has been burned by wildfires. Since 1981, 5,000 acres have been reseeded to winterfat and sagebrush. Other adapted shrub species such as perennial summer cypress (Immigrant Kochia), rabbitbrush, and Nutall's sagebrush are also being tested for application to the shrub restoration and greenstripping program in that area.

In the Shoshone District, volunteers from the Twin Falls Fish and Wildlife Conservation Corps and wildlife biologists from the Idaho Department of Fish and Game and the BLM Shoshone District recently planted 3,000 sagebrush seedlings in a test plot near Shoshone. The 5-acre test plot is a pilot implementation of the Idaho Cooperative Shrub Restoration Committee's Wildhorse Shrub Restoration/Greenstripping Plan to begin restoration of former mule deer and antelope winter ranges burned by wildfires. The test plot is an area that had been used by big game during the winter until fires burned through the area in 1981, destroying the shrubs necessary for food and thermal cover.

RANGEWIDE MANAGEMENT OF THE DESERT TORTOISE

The BLM administers over 60 percent of the habitat for the desert tortoise in the four-state area of Arizona, California, Nevada, and Utah. Currently, the species is listed as a candidate species by the Fish and Wildlife Service. Protection and management of tortoise habitat has been a concern of the Bureau for years. In FY 1987, a report and recommendations were developed by an interdisciplinary team of biologists and managers. An action plan approved by the Director is in process of being implemented by BLM State Directors in cooperation with State wildlife agencies. The plans call for increased inventory and monitoring of key habitats, categorizing habitats by degree of importance to tortoises, and implementation of various management actions to ensure the continued viability of the species throughout its range. Through this approach the Bureau is striving to demonstrate that this species can be maintained at biologically acceptable levels without its being federally listed as threatened or endangered.

DESERT BIGHORN SHEEP MANAGEMENT

Challenge grant funds appropriated by the Congress have enabled BLM to implement an extensive cooperative program with State wildlife agencies, bighorn sheep organizations, and others to restore desert bighorn sheep to historic ranges. Examples of the extensive cooperation are summarized below.

Arizona

BLM, Arizona Game and Fish Department, the National Park Service and volunteers captured and transplanted 18 desert bighorn sheep in the Arizona Strip District. The sheep were captured on the south side of Lake Mead and were taken to their new home in Hacks Canyon about 15 miles from the Grand Canyon. This transplant of 13 females and 5 males supplements a 1985 transplant to implement the Paria-Kanab Creek Habitat Management Plan (HMP). As part of the HMP, desert bighorn sheep will be transplanted until a viable herd is established. Volunteers from sportsmen's groups in Flagstaff, Arizona, and Las Vegas, Nevada, helped to capture and transplant the animals.

Nevada

Ten desert bighorn sheep were released to the North Hiko Range of the Ely District, Nevada. The sheep were set free near a water development. This reintroduction culminated 3 years of intensive water developent work brought about by the challenge grant program for desert bighorn sheep in which private organizations provided matching funds.

BLM's Las Vegas District cooperated with the Fraternity of the Desert Bighorn and the Nevada Department of Wildlife to complete two water developments for desert bighorn sheep in the Muddy Mountains in Las Vegas District. The Fraternity provided funds for materials to be flown in by helicopter, while the Department of Wildlife funded some of the materials. All three entities provided labor.

THREATENED AND ENDANGERED PLANTS

Some 45 species of T/E plants occur on the public lands and an additional 620 species are candidates for listing. The workload on species management and recovery is extensive. One means that BLM is using to supplement existing staff and capability is through expanded cooperation with private individuals and organizations. Following are some examples.

Oregon

Volunteers assisted employees of BLM's Burns District and the Portland and Boise Offices of the Fish and Wildlife Service in transplanting nearly 500 seedlings of the endangered plant, Malheur wire lettuce (*Stephanomeria malheurensis)* at a site 25 miles south of Burns. This planting project is the first in the Northwest where an endangered plant species has been reintroduced to its native habitat.

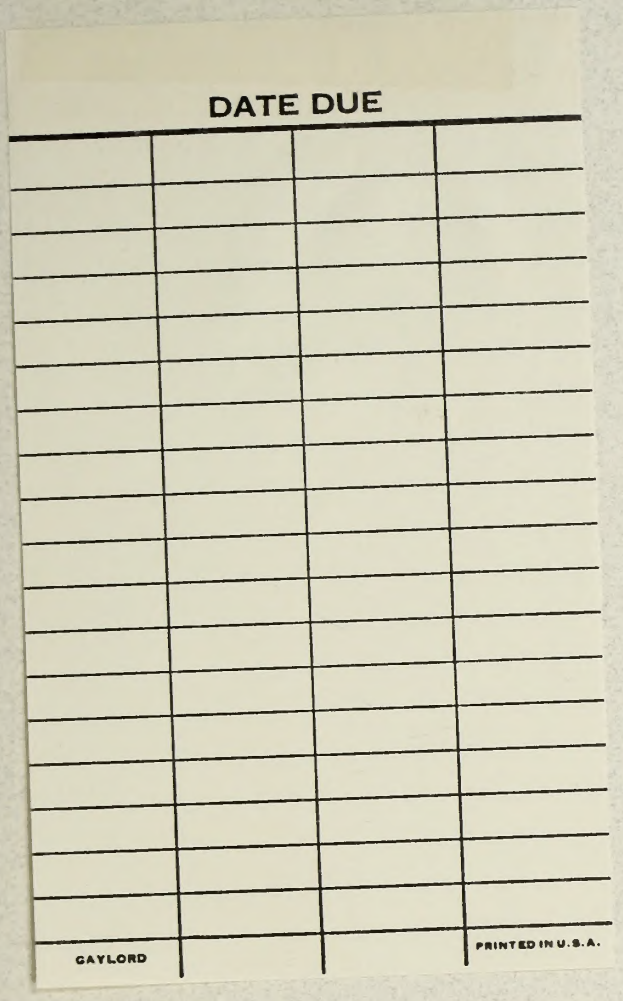
New Mexico

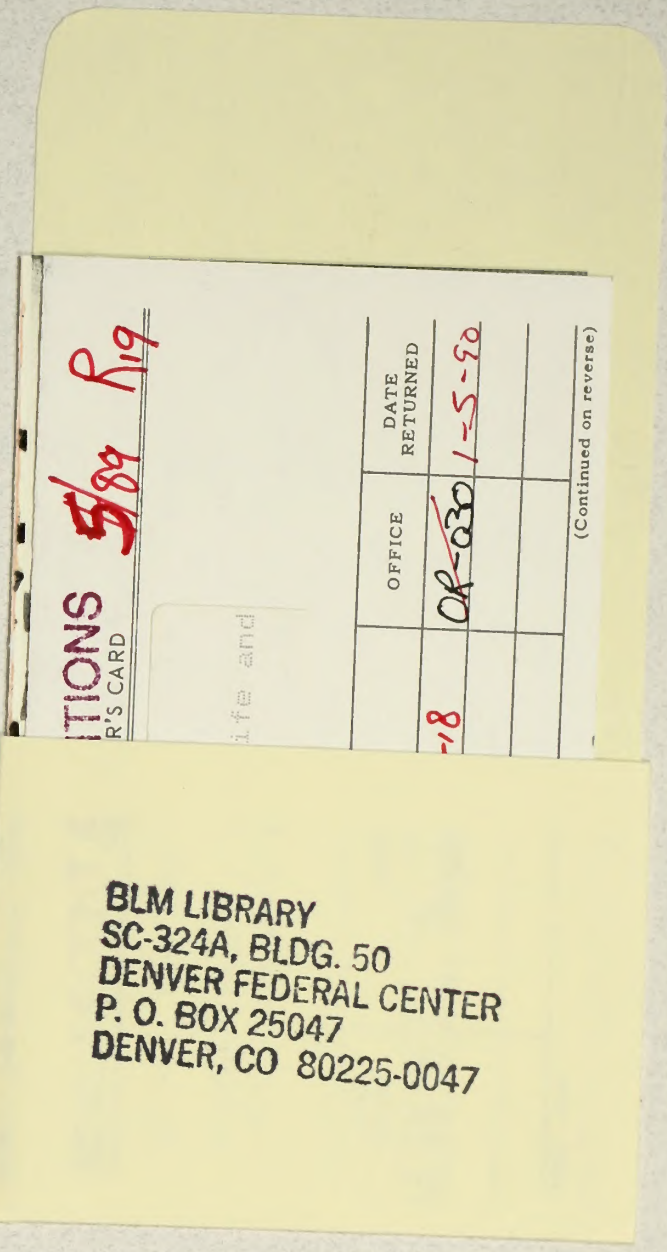
The Las Cruces chapter of the New Mexico Native Plant Society has signed an agreement with BLM's Lordsburg Resource Area and the Las Cruces District. Under this CMA, the chapter will assist BLM with reclamation of public lands during surface-disturbing activities. Members of this group will remove cactus and other valuable plants before an area is disturbed. The plants will be kept in a special area at a local nursery specializing in native plants. An interpretive sign will be used to explain to the public why the plants are there and that they are not for sale. The plants will later be replanted at the original site or

in another suitable area. No plants listed as endangered by the Fish and Wildlife Service or the State of New Mexico will be removed special permission is received from the appropriate agencies.

Colorado

In association with Bio-West, Inc., and Texaco, BLM's Grand Junction District recently began a study on the Uintah Basin Hookless Cactus, *Sclerocactus glaucus*, a threatened species. Twelve nursery stock cactus and 900 seeds were transplanted onto three 1-acre sites. The selected sites are similar to the cactus' natural habitat and were selected so as not to restrict other resource activities. The study will provide valuable information on: techniques for transplanting cactus from one site to another; whether nursery stock plants will survive; and whether viable populations can be established through seedings. This information will be useful in assessing future projects in which the cactus is affected.





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